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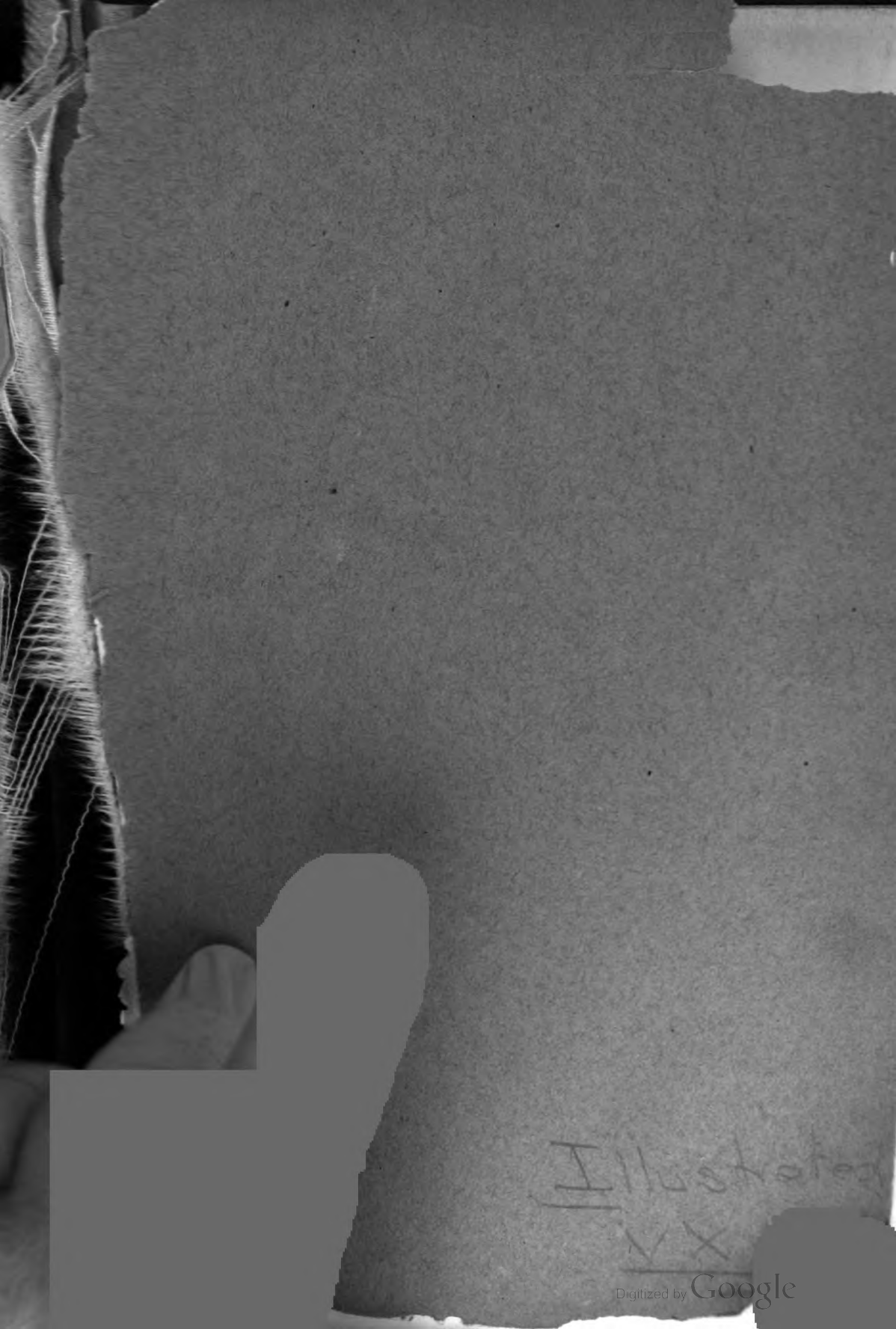
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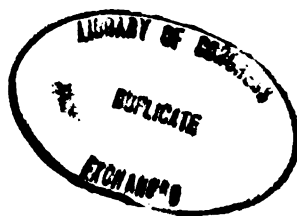
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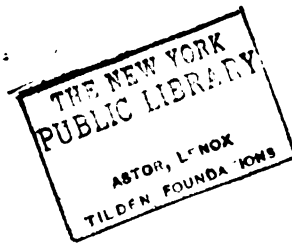
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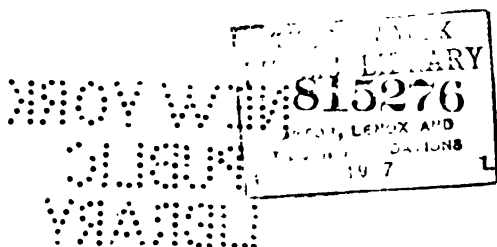
NEY AT WATERLOO.

THE ILLUSTRATED
Naval and Military
MAGAZINE
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*A Monthly Journal devoted to all subjects connected with
Her Majesty's Land and Sea Forces.*

New Series. Vol. VI.

PRINTED AND PUBLISHED BY
W. H. ALLEN & CO., LIMITED, 13 WATERLOO PLACE. S.W.
1890.



LONDON:

PRINTED BY W. H. ALLEN AND CO., LIMITED, 18 WATERLOO PLACE,
PALL MALL. S.W.

By transfer

OCT 26 1915

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No. 21.

SEPTEMBER 1st, 1890.

Vol. VI.

Great Commanders of Modern Times.

By WILLIAM O'CONNOR MORRIS.

IV.

NAPOLEON (PART 5).



MUST pass over the attempt to resettle the boundaries, at Vienna, of a changed Continent; nor can I dwell on the pretensions of the Tzar to sit in the seat of Napoleon without his genius, on the rapacity of Prussia and the craft of Talleyrand, and on the league between Austria, England, and France, to restrain the ambition of the Northern Powers. Nor can I notice Napoleon's brief rule in Elba, though the administrative powers of the fallen Lord of the Continent were exhibited in this narrow sphere, and have left honourable traditions not yet forgotten. I must also avoid even a short account of the failure of the Restoration in France; how Louis XVIII., well-meaning but feeble, spite of the memories of the old *régime*, fell into the hands of Royalist zealots,

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1

and marred the grace of the freedom he claimed to concede ; how impossible it became to reconcile the pretensions of returned *émigrés* and a ruined *noblesse* with the instincts grown out of the Revolution ; how the army, transformed and made the appanage of a Court, chafed in silence, and regretted its unrivalled chief ; how the nation after a brief hour of repose, felt humiliated that it had been reduced to the position of a lesser Power of Europe. The discords of the Coalition, and the unsettled state of France, were not lost on the extraordinary man who watched events from his speck in the sea, and who had not forgotten his vanished Empire. Napoleon quitted Elba in February 1815, on the most wonderful enterprise of his whole career. A flotilla bore the few hundred men imprudently left him by the Allies ; Fortune smiled treacherously on her audacious favourite, and he had soon landed on the shores of Provence, in order, in the face of embattled Europe, to subvert a Government founded on an European triumph. The very thought seemed akin to folly, and yet it became an accomplished fact in a fortnight. With that insight which was one of his greatest gifts, Napoleon avoided the cities of the coast and the great military stations of his old marshals ; he flung himself into the valleys of Dauphiné, a district hostile to the restored Monarchy, and his march seemed like the spread of some mighty influence, which power and authority were unable to withstand. Grasse, Sisteron, and Gap were rapidly passed ; a regiment near Grenoble welcomed the sight of its old commander, and fell at his knees ; the garrison of the town greeted him with exulting shouts, and wherever a part of the army beheld Napoleon, it followed him, swayed as by an enchanter's spell. Macdonald, with his staff, was expelled from Lyons ; Ney, meaning to be loyal, was carried away in the universal military revolt ; other chiefs found it impossible to resist ; and the discrowned exile was soon on his way to the capital at the head of a great and hourly increasing force.

Napoleon was at the Tuileries once more on the 20th of March ; "his eagles," in his expressive language, "had flown from steeple to steeple to the towers of Nôtre Dame," and France, dazzled, surprised, and disliking the Bourbons, accepted a revolution which seemed a kind of portent. The King fled into Belgium with his Court, his nobles, and a few officers of the Empire, who would not break their oaths ; the army easily put down two or three risings of Royalists in the Southern Provinces ; and Napoleon boasted, with truth, that he regained his throne at the cost of scarcely a drop of blood.

After this astonishing return to Empire, Napoleon offered peace, and to remain satisfied with the France of the Treaties of 1814; and probably he was sincere in these overtures. Yet it is not surprising that he was not believed; he had broken faith with Europe in leaving Elba, and, partly through terror and partly from hate, the Allies proscribed him as an enemy of mankind. He addressed himself to the defence of France, but the movement which had set him on the throne was essentially a military revolt; the fierce animosities of French factions embarrassed his Government and weakened the State; the restored Empire was viewed with distrust by Royalists, Liberals, and the old Republicans; the nation treated with indifferent contempt free institutions offered by Imperial hands; and the Chambers, which Napoleon convened to give popular support to his imperilled power, were full of secret or avowed conspirators. Nevertheless, let detractors say what they please, his exertions were mighty and worthy of him; his genius as an administrator shone with fresh brightness, though his health was evidently on the decline, and in a few weeks he had made preparations to resist the Coalition which must be deemed wonderful.

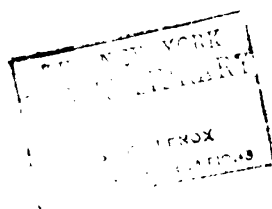
One circumstance gave him precious resources; more than 100,000 prisoners of war, trained and excellent soldiers, had been restored to France; and by making use of these and additional veterans, and by employing conscripts and National Guards, he raised the army, which had been reduced to impotence, to a state of formidable strength and efficiency. Meanwhile, he gave its old organization and structure to the instrument of war he had so long wielded; the Guard reappeared, and the loved eagles; corps, divisions, and reserves were again formed; great exertions were made to provide arms, horses, and *impedimenta* of all kinds; and Paris, which had fallen at once in 1814, was to a considerable extent, fortified. By June 1815, half-a-million of men were on foot to take part in the impending conflict; about 250,000 of these were ready; and paper money supplied the Treasury with the means of seconding a great effort which, in existing circumstances, was, I repeat, astonishing.

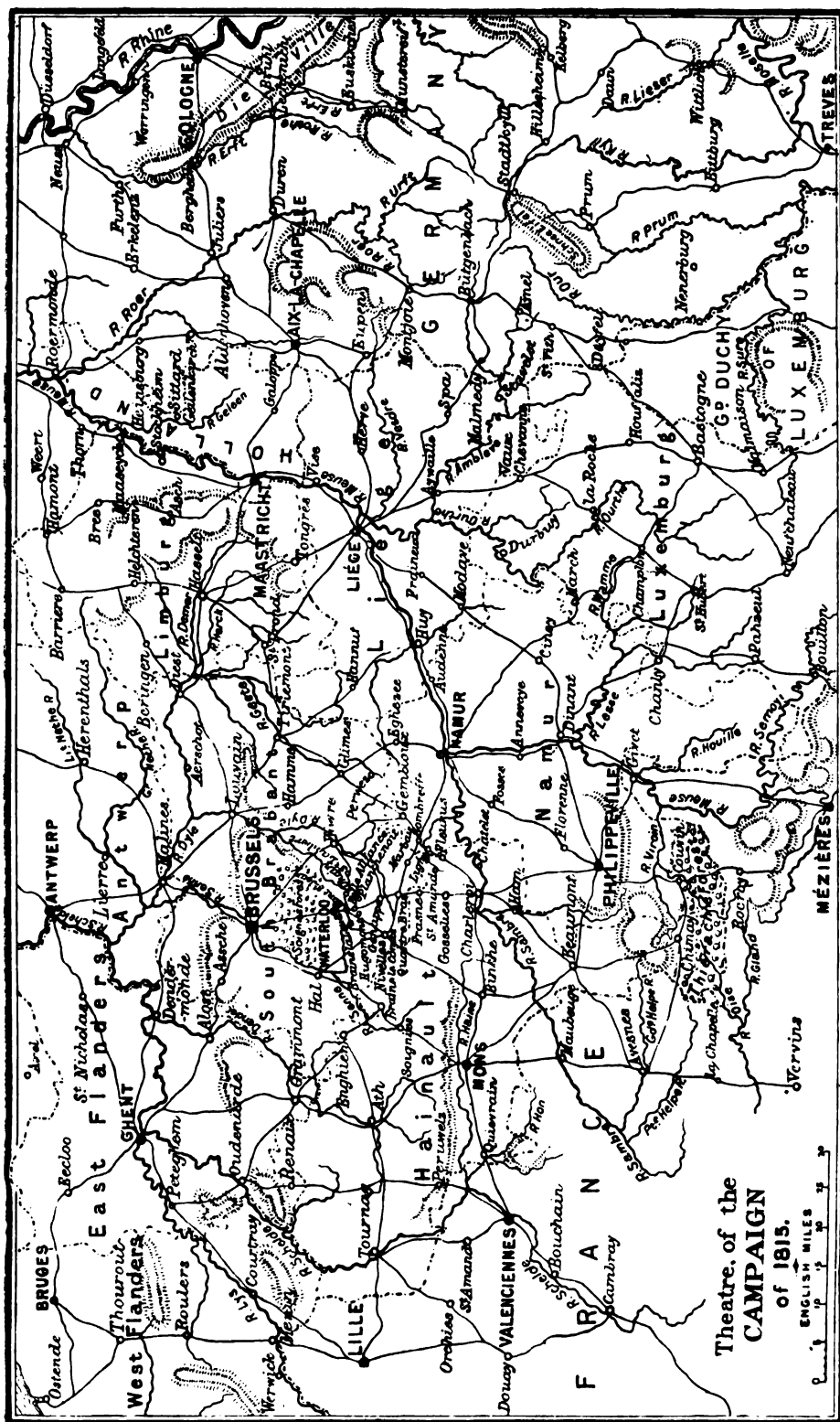
Two plans of operations presented themselves. Had France been united and loyal as a whole, Napoleon would have, no doubt, followed the grand precedent of the year before, under conditions much more favourable to success; he would have encountered the Coalition in Champagne with forces far more powerful than in 1814, and with Paris a strong entrenched camp in his rear, and

recollecting what he achieved on the Marne and the Seine, his triumph would have been not at all improbable. The second plan was much more hazardous ; but it was in harmony with Napoleon's genius, and it followed methods which had often secured him victory.

The Coalition had a million of men in arms ; but these masses were spread from the Scheldt to the Po, and northerly, from the Rhine to the Oder ; and the extreme right of the immense line of invasion, the two armies of Blücher and Wellington was isolated and thrown forward in Belgium. It might be practicable then, as it had been at Ulm, to cut off and destroy this detached force ; and many circumstances concurred to give a well-directed attack a real chance of success. The armies of Blücher and Wellington were widely apart ; they rested upon divergent bases ; they were commanded by chiefs of opposite natures ; their centre was weak and greatly exposed ; their line of concentration was a single road, at a short distance only from the French frontier, and behind this line lay a difficult country which would make their subsequent concentration no easy matter.

Seizing the situation with the eye of a master, Napoleon saw in this position of affairs an admirable opportunity to strike with effect ; and he resolved to assail and break through the allied centre, and to try to defeat Blücher and Wellington in detail, as he had defeated Beaulieu and Colli in the campaign of Italy. The means he adopted to carry out his project rank among the finest operations of his life, and form a conspicuous instance of his gift of stratagem. Concealing the movement with consummate skill, he drew together four corps from the vast space between Lille and Metz to the edge of the frontier ; the Guard, another corps, and the cavalry marched from the interior ; and the collected masses, perfectly arranged, converged gradually along this immense front, under the eye of the enemy, yet without his knowledge ! No more splendid effort has been made in war ; and had the Emperor had the complete force—150,000 men—which he reckoned on to begin the campaign, in all probability he would have triumphed. A rising in La Vendée deprived him, however, at the last moment, of 20,000 soldiers ; but the die was cast, and he did not hesitate ; and he set off from Paris on the 12th of June to challenge Fortune in a supreme trial. His admirable directions had been admirably fulfilled. On the evening of the 14th June 1815, 128,000 Frenchmen, comprising 22,000 horse and 350 guns, were assembled from near Maubeuge to near





Theatre of the
CAMPAIGN
of 1815.

ENGLISH MILES

Philippeville, where the French frontier then entered Belgium; and screened by the Sambre, they were a few miles from Charleroi, where the great road to Brussels gave an easy approach to the comparatively feeble centre of the Allies.

The army was in motion at daybreak on the 15th, the Emperor's object being to cross the Sambre, to occupy Charleroi, and by a forced march to seize the points of Quatre Bras and Sombrefe, on the great cross road between Nivelles and Namur, the only line on which his foes could unite without obstacles of no small difficulty. The operation was not quite successful; delays and different accidents occurred. Ziethen, too, one of Blücher's lieutenants, had checked the advance, not without skill, but Napoleon's project was nearly realised; the great mass of the French was beyond Charleroi, and within easy reach of Quatre Bras and Sombrefe before night closed on the 15th; and the allied centre was threatened if not severed, and could only close up in effective force, under, so to speak, the guns of the enemy. The conduct, meanwhile, of the hostile chiefs had perfectly fulfilled Napoleon's previsions, and had given him already an immense advantage. Blücher had, characteristically, placed three of his corps in positions around, or not far from, Sombrefe, even now almost in Napoleon's grasp; but his fourth corps was many leagues distant, and could not reach Sombrefe for a battle next day. On the other hand, Wellington, circumspect and cautious, and without experience of Napoleon's strategy, had hesitated and delayed at Brussels; he had not taken a step to join his colleague until late in the night of the 15th; and even then, fearing for his communications and his right, he had not advanced in force towards Quatre Bras, where his junction with Blücher would be accomplished. The allied line of concentration, therefore, on the lateral road of Nivelles-Namur was not held by the Allies in force; it was all but in the hands of the enemy. The allied centre was completely exposed, and Napoleon might reasonably expect either to beat in detail the allied chiefs, should they venture to offer battle, or to seize the points of Quatre Bras and Sombrefe, and to interpose between Blücher and Wellington.

This was the situation on the morning of the 16th, and it was full of great, nay, of splendid, promise. Napoleon was now at Charleroi, about to start for Fleurus, and to take the command of his corps near Sombrefe. He has been charged with delay, I think unjustly, and he was not fully aware of the enemy's movements; but his general position was so good, and his general

directions were so well planned, that accidents only robbed him of a decisive victory. He ordered Ney on his left to seize Quatre Bras, driving back any forces of the Duke at hand. The Marshal was then to descend on the rear of Blücher, who was to be attacked near Sombreffe, in front, by the Emperor; and had this grand manœuvre been properly carried out, Blücher must have been routed and forced away to the Meuse, and Wellington would have been in the extreme of peril, for both generals were now trying to join hands at Quatre Bras and Sombreffe, and were laying themselves open to the whole force of Napoleon. Ney could have easily fulfilled his mission; but he had lost the confidence of better days; he waited many hours before he even tried to move; and he failed to accomplish his main task, falling from Quatre Bras on the rear of Blücher.

Napoleon, meanwhile, marching from Fleurus, had attacked Blücher between Sombreffe and Ligny. The battle raged furiously for a considerable time, to the disadvantage of the Prussians on the whole, but no decisive success had been won; and the Emperor, perceiving that no force was closing on Blücher from the direction of Ney, tried to attain his object by another method. One of Ney's corps had advanced closely; the Emperor directed this towards Blücher's flank, while Blücher was to be assailed, as before, in front; and had this stroke been pressed home, the result would have been the same as that of the first projected attack. D'Erlon, however, the unlucky chief of this corps, was, when on the path of victory, called up by Ney, hard pressed by Wellington at this moment; and Napoleon, I think, must have concurred in this, for the defeat of Ney would have been disastrous, though this extreme caution was, perhaps, an error. Blücher escaped destruction through these mishaps; but Napoleon's attack in front had partial success, and the Prussian army was driven, in defeat, from the field. On the other side of the scenes of manœuvre, Ney, we have seen, had not reached Blücher, and had missed his mark; he had most unfortunately recalled D'Erlon, and he had suffered a repulse from the hands of Wellington, who had kept Quatre Bras though with much difficulty. Ney, however, had gained a strategic advantage; he had prevented Wellington from joining Blücher, and as Blücher had been forced away from Sombreffe, the Duke would be compelled to retreat; the line of the concentration of the allied armies was practically already in Napoleon's hands; and his operations had been largely successful, if they had not led to a second Jena, as he had reason to expect a few hours before.

Such had been the result of his fine strategy, although that result had not been complete; and it should be borne in mind that the allied armies were not far from double his own in number.

The allied generals, obliged, through the defeat of Ligny, to abandon their proper line of junction—the great road between Nivelles and Namur—were now thrown back into the country behind it, the thick-wooded and marshy valley of the Dyle, very difficult for the passage of armies. The real student of war will not doubt as to what their movements ought to have been; they should either have united their forces at once, a few miles behind Quatre Bras and Sombreffe, or they should have retreated two marches away to Brussels, where, having an overwhelming superiority of strength, they might have divided Napoleon's efforts. They took, however, an intermediate course—a half measure often disastrous in war; Blücher fell back some twenty miles to Wavre, the Duke fell back from Quatre Bras to Waterloo, and holding there positions they meant to join hands and accept, if offered, a great battle.

The idolators of success, supposed to cover everything, have praised this as scientific strategy, but it was bad strategy, and dangerous in the extreme. Wavre is considerably farther from Waterloo than Sombreffe is from Quatre Bras; what is more important, a most intricate country divides Wavre from Waterloo, and in this operation Blücher and Wellington were playing into the hands of their renowned adversary. Napoleon was given three alternatives, each big with the promise of immense success. He might call on his victorious army to make a forced march, might fall either on Blücher or Wellington, and defeat either within a few hours, before Wavre or Waterloo were reached; or collecting together all his forces, he might attack Blücher at Wavre, or the Duke at Waterloo, before either could join the other; or, in truer accordance with the principles of the art, he might restrain Blücher, with a retarding force, sent quickly from Ligny to hold him in check, and might attack Wellington with the mass of his army—the favourite manœuvre, in which he has had no rival—and in any of these cases he must have triumphed, over-matched as he was by his foes in numbers. The double retreat on Wavre and Waterloo was therefore a thoroughly false movement; and the General of Rivoli would have made it fatal. But the General of Rivoli, full of genius as ever, had lost the iron strength of twenty years before. Napoleon returned after Ligny, to Fleurus, ill; and

went to sleep and could not see his staff, and this illness, at a crisis in the campaign, saved the Allies, and had momentous results.

During the night of the 16th and the morning of the 17th, the French army remained motionless. Soult and Ney literally did nothing, no preparations for marching were made; the Emperor sent no orders from Fleurus; and, worst of all, Grouchy given the command of the right on the 16th, made no real effort to reconnoitre the Prussians, and to find out where they had gone. Disease, in fact, had weakened the energy of the chief; his lieutenants, fashioned to servitude, let things drift, and the opportunity of the 16th, given on the 17th once more, was lost never again to return.

Napoleon was back at Ligny in the forenoon of the 17th; a letter of Soult, the Chief of the Staff, proves that his first intention was to halt for the day, for he believed that the Prussians, completely routed, were falling back on their base, towards the Meuse, and there would be time, he thought, to turn against and defeat Wellington. On learning, however, from Ney, on the left, that parts of the Duke's forces were still at Quatre Bras, he resolved to advance, and try to destroy them; and he made preparations, now very late, for a combined movement against the Allies. He divided his army into two groups; at the head of the first, about 72,000 men, he meant to attack Wellington and bring him to bay; he gave Grouchy the second, about 34,000 strong, and he informed the Marshal that his mission was to pursue Blücher and to keep him in sight, and to interpose between Blücher and Wellington who, the Emperor added, was to be assailed should he stand near the neighbouring forest of Soignies.

Napoleon broke up from Ligny early in the afternoon; he was soon joined by Ney at Quatre Bras, and he endeavoured to harass the rearguard of the Duke, who by this time had his main force at Waterloo. The pursuit, however, had no results—it was too late, in fact, to be of use—and an extraordinary tempest of rain had broken over the country, and all but stopped marching. Before night fell, the heads of the French army had reached the low hills that overlook Waterloo, and a great army was evidently in position before them. Napoleon halted, hopeful of a great coming battle; but some hours before he sent directions to Grouchy, on his right, which require attention. Before leaving Ligny the Emperor, we have seen, believed that Blücher was making for his base, and had spoken to Grouchy in that sense; but on his way

from Ligny to Quatre Bras he was made aware that a large Prussian force had been seen on the Orneau, near Gembloux. He immediately sent new orders to Grouchy, and directed him to advance on Gembloux, and, of course, generally to comply with his first orders. Grouchy, who had broken up from Ligny late, set off for Gembloux in the afternoon; and though Blücher had had a long start, and Gembloux was by no means the best position to be taken for an advance on Wavre, still the Emperor's directions were correct enough to have enabled a bold and capable chief to have fulfilled his all-important mission, to have attained Blücher and kept him off from Wellington. Grouchy reached Gembloux rather late at night—the state of the roads and the weather excuse him—and he can hardly be blamed, though the fact is strange, that even at this time he was not informed with perfect accuracy about the Prussian movements. Within a short time, however, he had ascertained that a great part of Blücher's army had made for Wavre; another part, he was told, was marching on Perwez, towards the Meuse. He communicated this important news to the Emperor, and he expressly added, "that he would advance on Wavre, should the mass of the Prussians go that way, in order to separate Blücher from Wellington," proving that he perfectly understood his mission.

This intelligence—received during the night of the 17th—was calculated to make Napoleon certain, especially as it was his own idea, that he had nothing to fear from the Prussian army; he thought only of fighting Wellington, and he made preparations to attack on the morrow. The Prussian veteran, however, who more than once had baffled the Emperor by his audacious movements, had resolved, whatever the risk, to advance on Waterloo. He had rallied his whole army around Wavre, his first corps, that of Bülow, had come into line, and he had given his word to the Duke, who on the faith of the pledge was in position to fight at Waterloo, that "the whole Prussian army would be on the field by the early forenoon of the 18th of June." Blücher nobly endeavoured to fulfil his promise. Bülow broke up from Wavre at daybreak on the 18th, but the obstacles he met were formidable in the extreme; he was still far from Wellington's lines at noon, and his three colleagues, Ziethen, Pirch and Thielmann, were still close to Wavre, nearly a march distant, and were on a perilous flank march, in long straggling columns.

Meanwhile Grouchy had left Gembloux for Wavre, to follow up the enemy—he had now ascertained that all Blücher's army had

gathered round the place the night before—but his operations were simply wretched. He knew that Napoleon meant to fight Wellington, should Wellington make a stand at Soignies; he knew that he was detached to hold Blücher in check, and to keep him completely apart from Wellington; he knew that the Prussians had been round Wavre, and had informed his master, in part, of the fact; he knew that Wavre was a march from Soignies and Waterloo, and he knew that at Gembloux he was some fourteen miles from Wavre. Knowing all this, he should have left Gembloux at the first peep of dawn on the 18th of June, and have advanced as quickly as possible; and common sense should have taught him so to make for Wavre as to get across the Dyle, in order to draw near Napoleon and to cut off Blücher on his way to Wellington, for probably Blücher was making the attempt. He took exactly the opposite course; he left Gembloux many hours too late; his movement on Wavre was pitifully slow, and he made for Wavre, not over the Dyle, which would have soon placed him on the flank of Blücher, but along the stream, striking Blücher, if reached, in the rear, and pushing him, so to speak, on Wellington. This miserable generalship led to what followed; and Grouchy was so obstinate, and so blind to fact, that when he heard the far-distant thunder of Waterloo, he refused to follow the sagacious advice of Gérard and to march, at the eleventh hour, towards the flank of the enemy!

While these operations, big with a great future, had been taking place on Napoleon's right, the Emperor had attacked Wellington, who, with faith in his colleague, awaited his foe in a long-studied position. Napoleon had intended to attack early, but the state of the roads and the weather made an attack hazardous, and he delayed some hours, greatly to the Duke's advantage. The Emperor's general plan—the last exhibition of his genius in the sphere of higher tactics—was to turn Wellington's left and to force his centre, making a demonstration to engage his right; his adversary's was to hold his ground until the arrival of Blücher would make success certain. The grand attack on the British left and centre failed, partly owing to the excellence of the British troops, and partly to the density and cumbrousness of the French columns; and the feint on Wellington's right had no more success, and led to terrible waste of blood.

By this time Napoleon had learned that Bülow was gathering on his flank with 30,000 men, but he hoped this was a stray column which Grouchy might arrest and perhaps destroy, and he turned

fiercely against the centre of his foe, abandoning the effort against the British left, which, with Bülow at hand, would have been too hazardous. This attack was successful to some extent; La Haye Sainte, a fortified post, was captured. This made a gap in Wellington's defence, and Napoleon, confident that victory was at hand, launched a great mass of cavalry against the Duke's centre, intending to support the movement with the Imperial Guard. But at this crisis of the battle Blücher was near. Despising wounds, defeat, and days of fatigue, he ordered Bülow to fall on the Emperor's flank. This prevented the attack the Guard was to make, and though the French horsemen made heroic exertions, the British and German infantry "stood rooted in the earth"; and the cavalry, recklessly squandered by Ney but not supported by foot, were at last beaten.

During all this time, Bülow had been striking Napoleon's right; but at about 7 this attack seemed spent. The French still occupied the thin red line of Wellington, the artillery of Grouchy was heard at Wavre—a pledge that he was keeping the Prussians back—and victory for France seemed yet possible. Napoleon formed the Guard into two great columns, but Wellington had admirably strengthened his centre; the first column was fairly beaten, and the second, kept in reserve, could give it no aid. A sudden change now came over the battle; parts of the corps of Ziethen and Pirch appeared on the field; the attack of Bülow was fiercely renewed; British squadrons, let loose, swept over the plain; and the Duke, seeing the day was won, ordered a general advance of his worn-out army. The French, routed and surrounded, had soon no army, and night closed on a scene of carnage and ruin, the presage of Napoleon's second fall.

Napoleon's plan of attack on his last field was perfect, but his tactics at Waterloo show many errors. He was certainly in difficulties after the flank attack of Bülow, but he allowed his troops to be wasted in the feint on our right; he made a premature use of his noble cavalry, and he perhaps missed an opportunity to strike with the Guard before Bülow's diversion had become serious. For these mistakes he must be held responsible, though he was badly seconded by his lieutenants, especially by Ney—desperate, and stung by conscience—but all this was because, as is now well known,* he was ill and worn out on the 18th of June. The Duke, on the other hand, was the soul of the defence. He made, indeed,

* The authorities on the state of Napoleon's health during the campaign of 1815 will be found in Mr. Dorsey Gardener's book on Waterloo, pp. 34, 36.

a grave strategic mistake in leaving a large detachment far off on his right, but his conduct of the battle was above praise; and though he must have lost Waterloo had not the Prussians come up, still the defeat would not have been the rout to which Napoleon had looked with confidence.

Nevertheless, the result of Waterloo flowed from combinations outside the field. It was caused by the junction of part of Blücher's army with Wellington; and the question for the student of war is, ought this junction to have been prevented by Grouchy, detached by the Emperor to make it impossible? The answer must largely depend on conjecture; but I, for one, can have few doubts. Had Grouchy left Gembloux at daybreak on the 18th, and, crossing the Dyle, made for Blücher's flank, he would have surprised the Prussian army in divided columns on a flank march of extreme peril; and, giving Blücher credit for his splendid energy, I am convinced he would have paused to confront his enemy, and this must have prevented him reaching Wellington. The same result would have, perhaps, followed, and this is Napoleon's deliberate view*—not impartial, perhaps, but not to be dismissed—had Grouchy simply marched on Wavre in time, and fastened upon the rear of Blücher. The Emperor insists that, even in this case, not a Prussian division would have attained Waterloo. The arguments urged against these conclusions disregard the peril of the march from Wavre, and the very events of the day confute them. Grouchy, who should have been near Wavre at 11 A.M., did not reach it until 4 P.M., and yet his apparition stopped the Prussian army; Ziethen and Pirch were delayed, Thielmann was left at Wavre, and Blücher brought only 45,000 men, out of 90,000, to the field of Waterloo, and that too only between 4 A.M. and 8 P.M. In view of this fact, I can draw but one inference, and in this controversy all that has been written by Charras, and authors of his school, seems to me worthless.

A word on this memorable campaign, as a whole, and as to the lessons it really teaches. Napoleon's first operations were a masterpiece of war; and these, and the grave strategic faults of the Allies—Blücher ran into the lion's mouth, the Duke did not

* "Si le maréchal Grouchy eût campé devant Wavre le soir du 17, l'armée prussienne n'eût fait aucun détachement pour secourir l'armée anglaise."—*Correspondence*, vol. xxxi., p. 213. No doubt Grouchy could not have reached Wavre on the night of the 17th, but he might have been there at 11 A.M. on the morning of the 18th; and the result would have been practically the same. Bülow would not have attacked, or perhaps even approached Waterloo, had he been isolated.

know how sudden was his spring—exposed both to alarming danger, and ought to have secured the Emperor a decisive victory.

The errors, however, of Ney and D'Erlon saved Blücher at Ligny from utter ruin, and Napoleon's over caution as regards D'Erlon—though this is theory after the event—was certainly unfortunate to the interests of France. The double retreat at Wavre and Waterloo—another palpable strategic fault—gave Napoleon a second great opportunity. No doubt can exist for those who understand his career, that he would have seized it early on the 17th had he been the chief of a few years before,* but he was no longer equal to prolonged fatigue, and the negligence of his lieutenants and his slumber at Fleurus lost him a chance not again afforded by fortune. His prospects were not equally good on the 18th; he calculated on destroying Wellington, but this, I believe, was beyond his powers, and his delays, and the direction given to Grouchy and his wing, made it possible for Blücher to join Wellington, a possibility that might have been wholly excluded. Nevertheless, he ought to have gained Waterloo. The arrangement of Grouchy's force was sufficiently correct to have enabled Grouchy to stop Blücher, and though the Emperor made more than one mistake—and supreme genius is not omniscience—we still see in this campaign the matchless strategist, great as ever in intellect, but no longer equal, through physical weakness, to work out his conceptions. Yet when this has been said, justice should be done to the allied chiefs; and they deserved their triumph. Both, no doubt, made serious strategic errors; from first to last they proved themselves to be, strategically, unfit to cope with Napoleon, but both exhibited as soldiers the finest qualities. Blücher's conduct in rallying his defeated army, and in attempting the march on Waterloo, shows energy of the highest order. Wellington's constancy and tactical skill at Waterloo are admirable specimens of his genius in defence. The test of the merits of the two commanders is to compare their conduct with what would have been the conduct of any other chief of the Coalition opposed to Napoleon; Schwartzenburg would not have risked the march from Wavre, the Archduke Charles would have

* Jomini knew more about Napoleon than any other commentator on the Emperor, and is naturally astonished at the delays of the 17th of June. The real cause was not then known, but Jomini's words are significant. *Précis de la Campagne de 1815*, p. 185. "Pour ceux qui se rappellent l'étonnante activité qui précéda aux événements de Ratisbonne en 1809, de Dresde en 1813, de Champaubert et de Montmirail en 1814, ce nouveau temps perdu sera toujours une chose inexplicable de la part de Napoléon."

fallen back from Waterloo when he found that the promised support was late, and in either event the Emperor would have won the battle. Two subordinate causes of the issue of the campaign cannot, in addition, be passed over. Napoleon's army was too small; 128,000 men could, with difficulty, be opposed to 224,000, and this led to a distribution of his force—his wings not being well connected with a weak centre—which partly explains his lieutenants' faults, if it does not afford an excuse for them. The Prussian army, besides, was a different army from that which had succumbed at Jena. Napoleon refused to see the distinction; he would not believe—as, in all instances, disregarding national and popular feeling—that it could rally after Ligny, and draw near Wellington, and this had something to do with his overthrow, though, I repeat, Blücher could not have succeeded had Grouchy been a capable chief.

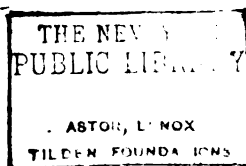
I shall not dwell on the closing scenes of a most strange and eventful history. Napoleon at St. Helena realised the legend of the fabled Prometheus; Genius, in conflict with Supreme Fact, was chained to a rock, and held down by Force, and humanity turns away from the agony. Yet impartial history will truly say that it was just to deprive the great troubler of the world of liberty, and the animosities and fears of the time account for, if they do not excuse, the indignities suffered by the fallen Emperor. The student of war will turn with gratitude to the rich fruits of Napoleon's exile, his writings on the art, in thought and style superior to all productions of the kind, and those who imagine that German genius has created the latest developments of war will be surprised to learn that if we omit what belongs to purely material inventions, it has been anticipated at every point by Napoleon.

My estimate of this extraordinary man can be easily gathered from what I have written. Nature gave her prodigy an imagination such as she gave to Dante and Milton; she added a power of calculation and thought, such as she bestowed on Newton and Laplace; she contributed a superabundant and practical energy, embracing alike what was great and small, such as scarcely ever has been seen in man, and she conferred craft, dexterity, readiness, and firmness of character in a most ample measure. Gifts such as these would have made Napoleon one of the greatest of generals in any age; but he fell on a time when the progress of husbandry and facilities of locomotion, greatly increased, had created new conditions for the military art; and when, too, Revolution in



THE EMPEROR NAPOLEON, 1815.

(From a Picture by Eastlake.)



France had given a powerful impulse to the human mind, and had made it singularly bold and aspiring. Genius and circumstance thus concurred to place Napoleon almost at once at the head of all warriors of modern times; and for years it seemed, as if Fortune, whatever he did in the field, assured him victory. He was unrivalled, from the first, as a strategist; the plans of his early campaigns are marvels of genius as distinctive as those of Shakespeare or Raphael; but though imagination is their most striking feature, this as yet, as a rule, is controlled by judgment, and astonishing as they are, they are thoroughly practical. The peculiar excellence of these prodigies of art is the mastery of the theatre of war, and Napoleon's power in making it answer his ends; the campaign on the Adige, that which led to Marengo, and that of Austerlitz are perhaps the finest specimens of this supreme merit. Conceptions, however, in war are useless unless skilful execution follows; and Napoleon's execution of his strategic projects was more wonderful than the projects themselves. In these operations he, of course, adhered to the methods of his great predecessors, for these were in accord with the nature of things, and carried out principles always true; for example, like every real strategist, his constant object was to bring superior force to the decisive point, and so to baffle and defeat the enemy; and, with these ends in view, like Turenne, he struck repeatedly at the communications of his foe, and endeavoured to gain his flank or rear; or, throwing himself between divided enemies, attacked them in detail, and beat them down in succession. But all this he did with an originality of design, with a force of calculation, and, above all perhaps, with a power of stratagem unequalled by Turenne or by any commander of modern times.

Nothing since the days of Hannibal can be compared to the descent from the Alps, which conquered Italy, and to the march from the Channel to the Danube, which destroyed a whole army by manœuvres, and threw the gates of distant Vienna open. These marvels of war, it must be borne in mind, however, were due not to Napoleon alone; they were to be attributed, in a great degree, to circumstance and to his perfect appreciation of it. From the new conditions made possible in war, from the growth of agriculture and the multiplication of roads, armies could subsist, in every fertile country, for the most part, on resources on the spot, and could therefore dispense, to a certain extent, with *impedimenta* necessary before; they could also march on a variety of lines with a rapidity never before possible; and the art, so to speak, was

given wings, and could take a flight into a new sphere. First of the men of his time, Napoleon grasped these facts; his armies living on the tracts they passed through, and making use of every available road that was compatible with their safety on the march, moved, not without magazines, indeed, nor without a solid base and all kinds of supplies, but with a celerity never before known; and the young chief out-mancœuvred and terrified generals accustomed only to the methods of the past. This was one of the secrets of Napoleon's early success; his genius fell in with and made the most of the new conditions of the art of war, and for a long time he came, he saw, and he conquered. Yet what had been a talisman might prove a peril, should these conditions happen to fail; and history was to illustrate this by most striking examples.

Napoleon was thus the first of strategists; he stands supreme, like a Himalayan peak; there is nothing equal to him in this sphere of the art. He has been surpassed in the lesser tactics; he never was a regimental officer; he commanded in chief at too early an age to have had practical experience of the three arms; he perhaps underrated the strength of infantry, and rather exaggerated the force of cavalry, and the only arm he thoroughly understood was artillery. But in the province of the higher tactics, where strategy and tactics blend with each other, his pre-eminence nearly, if not quite, reappears. He detected the decisive point on a field of battle, and the true way to cope with an enemy, almost as surely as on a great field of manœuvre; but faults I shall notice were here sometimes seen, and I do not think he excelled Marlborough, a tactician of the very first order. As a military administrator he was, perhaps, unrivalled. His industry, his grasp of facts in the mass, and his extraordinary mastery of details were marvellous; and though the Grand Army had many defects, for it was the hasty creation of an age of war, still it was the best army that had been seen since the Legions; and, unlike the conscript armies of our age, it was subjected to trials they have never endured. Napoleon's *Correspondence* can alone give us a notion of his administrative powers; and their results are most conspicuous in his immense preparations for the campaign of 1807, for the passage of the Danube in 1809, for the invasion of Russia in 1812; and for the restoration of the military strength of France in 1813 and 1815.

No wonder, then, that this prodigious genius, backed by favouring circumstances, and the French Revolution, should have transformed the art, to a great extent, and have given it an aspect of new

grandeur. Turenne did great things between the Scheldt and the Inn; Marlborough did great things between the Meuse and the Danube; Frederick did great things on the Elbe and the Oder; but what were these achievements, splendid as they are, compared to Napoleon's march of conquest? He moves from the Var to the Po and the Adige, strikes down the power of the House of Hapsburg, and dictates peace within sight of Vienna. He issues from Switzerland across the Alps, envelops his enemy and gains Italy; and had he had a lieutenant equal to himself, he would have destroyed the Austrian armies in Swabia in 1800. He imprisons Mack in 1805, enters Vienna with an army encamped, a few weeks before, within sight of our coasts, and annihilates for a time the military power of Austria and Russia on the great day of Austerlitz, the most perfect battle of the nineteenth century. The tale is the same the following year; the operations are less striking, but Jena overwhelms the army of Frederick, and a few days of well-planned manœuvres makes Napoleon master of the Prussian monarchy.

His unbroken success comes here to an end; but even in his campaigns of chequered fortunes, nay of disasters, we see the same grandeur, marred as it often is, of conception and action. He defies Nature, and receives her warnings in Poland; he narrowly escapes defeat at Eylau, but his genius and will re-establish his power, and he strikes the Tzar down on the verge of old Europe. He defies national right and feeling in Spain and Portugal, and meets reverses justly deserved; but he hastens across the Somo Sierra to Madrid, and for the time he subdues the Peninsula. When called back to France by the sound of war on the Danube, he rectifies errors made in his absence by operations of consummate skill; he once more reaches and conquers Vienna, and having challenged Fortune at Aspern and Essling, he answers her rebuff by a prodigious effort of energy and perseverance at Lobau, and he ultimately triumphs on the field of Wagram.

The Nemesis of power attains him at last; his army is engulfed in the snows of Russia, beyond the confines of the Western World, and yet his movements are admirably designed, and his capacity was, perhaps, never more conspicuous than at the Beresina. He reorganizes his forces in 1813, with a rapidity and completeness that confound the Allies; and though he loses at last his hold on Germany, he wins four great battles, is able to make the issue of the contest doubtful for months, and succumbs at Leipsic perhaps through defection only.

In the campaign of 1814 he aims at too much, yet his genius shines out with such malignant splendour that his enemies shrink in terror from it; he is victorious over and over again, and he is only overwhelmed because France and Paris will not support his Empire. In 1815 he sinks at last, through the effects of a crushing military reverse; yet even in this campaign, spite of the faults of lieutenants and the determination and energy of foes, the presence of the great master is seen everywhere; and he only just misses splendid success.

Humanity, however, is never perfect, and there were many flaws in this marvellous nature. The intensity of his imagination occasionally mastered the prudence and calculating powers of Napoleon; we see this even in his early years, in his project to march from the Nile to the Indus, in his scheme of a descent on our coasts in the face of immensely superior fleets; and we see it more clearly in his later campaigns, in the advance from Smolensk into the depths of Muscovy, in the attempt to reconquer the continent in 1813, in the resolution to strike for the whole Empire, and not to recall all his forces to the decisive point on the theatre in 1814. This dangerous quality sometimes marred the strategy of Napoleon, and marked it with extravagance. He was not so safe a strategist as Turenne, and his strategic reverses were as great as his triumphs. Over confidence, too, and extreme arrogance, combined with this excess of imaginative force, form distinctive faults of Napoleon in war. We see them, even from the first, in the campaigns of Italy; they appear plainly in his march on Marengo, and nearly caused him to lose the battle; they are visible in his advance on Austerlitz; they are conspicuous in his campaigns in Poland; they largely contributed to the ruin of 1812; they prevented him from saving his army at Leipsic; they lured him on to his fall in 1814; they are exhibited in 1815, in the false conviction that Blücher, after Ligny, was utterly routed, and could not rally his shattered army.

To this fault must be added another, a kind of passionate desire to crush an enemy, whatever the risk, on the field of battle. Napoleon showed this at Caldiero in 1796; perhaps at Eylau in 1807, distinctly in 1809 at Aspern and Essling; and most remarkably, and with the worst results, at La Rothière, Craonne, Laon, and Arcis in 1814. This even lessens his excellence as a tactician. With his marvellous insight, in comprehending the ground and the weak points of a foe, he sometimes attacked imprudently, and deserved defeat. He had not the calm intelligence of Marlborough

on the field, and here he is certainly less great than Marlborough. Napoleon, too, had another defect, of a moral kind, not to be overlooked; no one could hold a prouder or a more daring attitude, no one knew better the power of the renown of arms, but he did not confront misfortune, when hope seemed lost, with the indomitable constancy of some warriors. He was unequal to himself during the retreat from Russia—he ought not, I think, to have quitted his army; he tried to kill himself in 1814; and in this respect he falls below Frederick, who, in all others, is not to be compared to him.

Yet the most marked of his failures and shortcomings as a leader in war have yet to be noticed. He thoroughly understood the material conditions which made his grand offensive strategy possible. Yet he disregarded the fact when these largely failed; he endeavoured to make the same daring movements in barren Poland as in fertile Italy, in the swamps and forests of Russia as in the plains of Germany; and though he laboured to avert the resulting dangers, he could do so only in a slight degree, and he failed when nature began to fail him.

Napoleon, too, had this special fault; he had many of the instincts of the old *régime*; he simply abhorred Jacobinism, and all its doings; he believed in force only as the means of ruling; and throughout his career he had a rooted dislike and contempt of all popular movements and feelings. This tendency led him into capital errors, even from a purely military point of view; he believed that he could conquer England by a descent; he scorned the national rising in Spain, though it destroyed the flower of his best armies; he would not lift a hand to liberate Poland, though this must have disabled the Tzar; he would not even at Moscow set the serfs free; he laughed at German and Russian patriotism, and found the results of his scoffs at Leipzig; he called the liberal emotions of France at the close of his reign, “metaphysical nonsense and visionary stuff,” and this contributed to his fall in 1814.

In politics in the highest sense, and even in the larger affairs of State, Napoleon did not attain supreme greatness. In this noble province of wisdom and conduct, his genius was not in its true sphere, the force of his intellect was out of its place; he followed false lights, and fell into the gravest errors. His ideas of politics were derived from the ambitious traditions of the old Monarchy, and from the frightful scenes of the French Revolution, and his conception of ruling was to extend the domination of France over

a subject Continent, and to keep down anarchy at home by despotic power, magnificent, even national, but sternly repressive. His capacity, his craft, his untiring energy were tasked to the utmost to compass these ends. The Empire bestrode three-fourths of Europe; it extinguished Jacobinism for some years in France, it nursed her in dreams of warlike glory, it established order, prosperity, and material grandeur. Yet this vast fabric of conquest and force, which, like the Satanic temple of the poet's vision, "rose like an exhalation," as quickly vanished. The Empire, founded on international wrong, and depending for its existence on the enforced submission of great races conquered, but spurning the yoke, was a defiance to Law divine and human; it was a contradiction to the nature of things; and the methods by which its author upheld it, harsh tyranny, statecraft, and the Continental system, were assurances of his speedy overthrow.

As for Napoleon's system of domestic government, splendid as it seemed, and as it was for a time, it had no stability and could not endure; it rested on the mere rule of the sword; it had no solid support in old institutions, in settled traditions, in powerful orders of men; it was a despotism controlling a demoralised people, in which revolution had destroyed faith and loyalty. The character, too, of this rule was bad; the execution of the Duc D'Enghien, and many similar deeds of blood, were crimes that shocked the conscience of mankind. Napoleon's Bodies of State, his spy system, his organized informers, his repression of thought, remind us of the Rome of the later Cæsars; and, curiously enough, he hated Tacitus, the immortal censor of Imperial tyranny. Yet the Empire was not a mere scheme of oppression. It had a grand and beneficent side; it bears the marks of the administrative gifts and capacity of its great creator; it largely civilized while it subdued; it saved France from the vile rule of demagogues; it gave her all that is solid in her social fabric, and the Codes will outlive Marengo and Jena.

A word on Napoleon in his tent and his camp, the natural home of this mighty spirit. The great captain was, in the main, a kind master to submissive lieutenants; he lavished wealth and honours on his generals and marshals; he was usually good-natured to these docile servitors. But his personality was so overpowering that he made his subordinates mere pawns on the board; he deprived them of self-reliance and freedom, and as his nature was not magnanimous, he repeatedly blamed them for his own errors. The results were injurious to him as a chief. Few of his marshals

were fit for independent command ; they had little power of initiative or true capacity, and they indemnified themselves for his rebukes and gibes by squabbling, and often thwarting each other, as was notably seen in Spain and Portugal. It was otherwise with the mass of the army ; here Napoleon's influence was immense for good. He obtained efforts from French soldiers, which no other chief has ever obtained ; his presence among them it has been said, was equal to 40,000 men ; he was prodigal of their blood, and set at nought their sufferings, if any object was to be attained ; but he was careful of their wants, knew how to win their hearts, and was adored with a truly idolatrous passion.

As has been seen in the case of other great men, the inner life of Napoleon had repulsive features ; the figure loses majesty, when undraped of its trappings. He had been brought up in an age of wickedness, and Napoleon could lie, cheat, and forge with complete indifference, if anything was to be gained by it. His manner and voice could charm and fascinate, but his imperious nature made him rude and brusque ; he could scold and fly into fits of temper ; " his very caresses," it has been said, " were feline " ; he could be coarsely familiar and suddenly savage. In his general bearing there was a want of repose, of true self-respect, of natural dignity. In all these respects, as in the weightier matters which pertain to the master art of Empire, Napoleon falls far behind Cæsar, through unquestionably the superior of Cæsar in war.



Recent Changes in the German Army.

By C. J. L'ESTRANGE.



IN September 1886 we commenced in this Magazine a series of articles in which we endeavoured to show, so far as particulars were forthcoming, the strength, organization, and equipment of the various European armies at that date. Only four years have elapsed since the first of these papers was published ; yet during this short period the military constitution of Europe has undergone so serious a change that, for purposes of reference and comparison, these papers are now almost ancient history. It seemed then impossible that the strain under which the great military Powers were existing could further be increased ; but the race for the military hegemony is still proceeding with unabated and, in fact, increased bitterness. Every day sees fresh burdens added to the almost intolerable load under which the industrial and commercial expansion of continental Europe is retarded and crippled. Month by month fresh sacrifices are called for, not only in the shape of money votes, but of an increased term with the colours, or an extension of the period during which the citizen is liable to be summoned for active service.

Among small States, no less than among large, intense military activity has been noticeable. The tendency throughout Europe is towards universal military service in its strictest and most uncompromising sense ; and even in those States in which the principle is only partially admitted, the last two or three years have seen a marked increase in the strength of parties or political sections who advocate its thorough application. Long before the close of the century the military constitution of continental Europe will probably have become homogeneous.

The Conditions of Service.

The Bill of 11th February 1888 increased the fighting strength of the German army in a twofold sense. It not only added to the numerical effective, but provided for a much more thorough training of what may be called the second line—those men who, in the event of war, would be called upon to fill gaps in the field force.

Before the passage of the Bill the term of service for every German subject capable of bearing arms extended from the seventeenth to the forty-second year. On the 1st of January of the year in which he reached the age of twenty-one he was required to report himself to the authorities, and was then liable to be enrolled in the ranks of the active army. There were many exceptions to this rule, and to these we shall refer later; but this was the general principle on which the army was recruited. The recruit served three years with the colours, passed then into the Reserve for the next four years, afterwards in the Landwehr for five years, and eventually into the Landsturm for the rest of his term of service.

Those who, from one cause or another, were exempted from this regular rotation of duty in the various branches of the army, were called upon for service, from the beginning of their period of liability to the completion of their thirty-first year, in the Ersatz Reserve. The latter was divided into two classes; the smartest and physically strongest recruits were enrolled in the first class, and called up at intervals for periods of training amounting on the average to about one week per annum. The weaker and less promising recruits joined the second class of the Ersatz Reserve, and received no training during peace.

About 40,000 men, in round numbers, annually passed into the Ersatz Reserve, and they were intended, in the event of war, not to form special battalions but to fill vacancies which might occur in the army of operations. Completing their term of service in this branch, the Ersatz Reservists passed into the Landsturm, which includes in Germany all men liable for service who do not belong either to the first or second line of the army.

The recent Bill has introduced very important modifications in this system. The term of service with the colours is still nominally three years, but the period of liability in the Landwehr has been increased by six years, an extension of which the importance can scarcely be over-estimated. The eleven years of service in

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this branch is divided into two periods. During the first five years the Landwehrman is liable to be called up for an annual period of training; but on completing this term, he is relieved from all further obligation during peace, and is even allowed to emigrate on obtaining permission from the authorities.

The second levy of the Landwehr includes also those men who have completed their term in the Ersatz Reserve. The second



PRUSSIAN INFANTRY OF THE LINE.—SKIRMISHING.

class of the latter force has been abolished, and the number of men annually incorporated in this branch is so regulated that seven contingents shall be sufficient to complete the war strength of the Active Army on mobilization.

In time of peace, the Ersatz Reservist may now be called up for a total training of twenty weeks during his twelve years of service; and on the expiration of his term he is enrolled either in the second levy of the Landwehr or the first levy of the Landsturm, according to the amount of training he has received.

The Landsturm has been wholly re-organized and divided, like the Landwehr, into two levies. The first includes all men under thirty-nine years of age who are liable for service, but who do not belong to any other branch of the army. The second levy includes the whole male population of the country, between thirty-nine and forty-five years of age, who are capable of bearing arms.

The Landsturm is not called upon for any training in peace, but one result of the new Bill has been to make the Landsturm far more available for instant service with the colours on the outbreak of war than it has hitherto been. The first levy may be called out by the Commanding-General of a province or a fortress, and no Imperial summons is now necessary except for the second levy.

A glance at the rearrangement of the system of recruiting will show that the change does not materially add to the burdens of the German soldier during peace. His term with the colours is no longer than before, nor is he called upon during his period in the Reserve and Landwehr for any appreciably longer training than he is at present required to undergo. On the outbreak of war, however, the new law will call under arms a very large number of men almost past the middle age who have hitherto been quit of further liability for service.

In one sense, indeed, this lengthening of the period in which liability for service in the field hangs like the sword of Damocles over the German citizen, may be considered as a burden even during peace. Moreover the changes will involve a considerable monetary outlay, which will fall heavily upon the already overtaxed population of the Empire. It is almost a truism to say that a policy such as that upon which Germany has entered during the last half century admits of no rest either in the sacrifice of time or of money. The limit of age has been continuously extended, and the cost of maintaining the army even on a peace footing has increased out of all proportion to the growth in its numerical strength; nor is there any prospect that this downward course towards national bankruptcy will be arrested.

Officers and Non-Commissioned Officers.

The hierarchy of regimental officers in the German army comprises six ranks:—(1) second lieutenant; (2) lieutenant; (3) captain; (4) major commanding battalion or squadron; (5) lieutenant-colonel; (6) colonel.

The leading principle in promotion is that of seniority. Officers below the rank of lieutenant-colonel are promoted within their own

regiments. Above this rank promotion takes place throughout the army as a whole. Officers who, from incapacity or other causes, are considered unfit for promotion are frequently passed over. In this case they usually retire into the Reserve, or leave the army for civil employment which is found for them by the State.

As a rule, promotion is quickest in the general staff, and more especially in the subaltern ranks of that branch.

The general officers of the German army comprise four grades:—(1) major-general or brigadier; (2) lieutenant-general or



POMERANIAN JÄGER.

general of division; (3) general of infantry or cavalry (a grade corresponding to the commander-in-chief of the *corps d'armée*); (4) general field-marshal.

There are five grades of non-commissioned officers in the German army: (1) unteroffizier, corresponding to the corporal in the English army; (2) sergeant; (3) vice-feldwebel, or vice-wachtmeister, according to the arm; (4) feldwebel or wachtmeister, corresponding to sergeant-major; (5) porte-épée-fähnrich. The ranks of vice-feldwebel and vice-wachtmeister were established in

1878. They are, as their titles sufficiently explain—assistants or representatives of the sergeant-major.

In addition to these grades, there are some others in the special branches, for instance, fourriers, or non-commissioned officers charged with the distribution of commissariat stores and the arrangement of quarters; capitaines d'armes in the infantry, and quartermasters, as they are called, in the cavalry, charged with the care of clothing-stores and the command of the working artificers; feuerwerker, or skilled artificers in the artillery.

Promotion from non-commissioned to commissioned rank is, except in rare instances, given only as a reward for brilliant service in the field; it may be regarded, in fact, as a rule that the non-commissioned officer scarcely aspires to the epaulet. But though his ambition is necessarily narrowly bounded, his social position in the country is relatively high.

These remarks do not apply to the porte-épée-fähnrich, whose position is naturally distinct from that of his brother non-commissioned officers. In principle all officers are required, on joining the army, to serve in the ranks before obtaining their commission, and promotion to the rank of porte-épée-fähnrich is granted only after five months' service, followed by an examination. The successful candidate is then required to produce a certificate of military aptitude from the commanding officer of his regiment; and, on obtaining this, receives the sword which distinguishes him from the non-commissioned officers of the ordinary type.

The porte-épée-fähnrich is required, before promotion to commissioned rank, to pass through one of the nine war schools. This course commences after six months' service as porte-épée-fähnrich, and lasts as a rule for nine or ten months. It is followed by an examination, as the result of which the candidate, if successful, receives his commission as second lieutenant.

Infantry.

The infantry of the German army has numbered, since the 1st of April 1887, 166 regiments. Of these, 151 regiments have 3 battalions, and 15 have 4 battalions each. Of the 151 regiments, 9 belong to the Prussian Guard, 103 to the Prussian Line (or to the Line regiments of districts whose military administration is placed under the direction of the Prussian War Office); 12 are Saxon, 8 Wurtemberg, and 19 Bavarian regiments. The 166 regiments have, of course, various effectives, but they may be divided into 4 principal types: the 3-battalion regiment of in-

28 RECENT CHANGES IN THE GERMAN ARMY.

creased effective, the 3-battalion regiment of normal effective, the 4-battalion regiment of increased effective, and the 4-battalion regiment of normal effective.

As a result of the new military law, 21 Prussian regiments now belong to the first of these types.



ULANS ON OUTPOST DUTY.

By the Bill of the 11th March 1887 the strength of the normal effective regiment was increased by 69 men in the Prussian corps, 52 in the Wurtemberg, 80 in the Saxon, and 113 in the Bavarian regiment. The Saxon regiments are practically identical with those of Prussia. The Wurtemberg corps, on the other hand, are weaker

by about 70 men, while the Bavarian are stronger by about the same number.

Of the total increase of 41,135 men effected through the Bill of 1887, the infantry gained 80·95 per cent.—33,298. Of these 18,778 went to form new corps, while 14,520 served to increase the effective of existing regiments.

The total effective of the infantry, including officers and military employés, is 324,853 men ; but to this must be added 5,400 one-year volunteers, bringing in the total strength up to 330,253 men.

During peace one or two officers and about sixteen or eighteen non-commissioned officers and men are maintained in each of the 277 Landwehr battalion districts. The total peace establishments of these cadres amounts to about 5,500 officers and men.

The number of recruits per battalion is fixed annually by Imperial decree. It amounts, as a rule, to about 190, i.e. 48 per company, or nearly one-third of the total number of effectives. The recruit joins his company, as a rule, at the beginning of November ; his predecessors, who have completed their full time and passed into the Reserve, leaving the active ranks at the beginning of October. A full month is therefore available for making arrangements to receive the new men. This duty falls upon the captain of the company, who appoints a certain number of *gefreite* to aid, instruct, and, if we may use the term, to chaperon the new arrivals.

The 48 recruits are divided into squads of 16 men, each commanded by an experienced non-commissioned officer, who is responsible for their elementary training.

The 48 as a rule are commanded by a lieutenant, who is required to be present at all drills and exercises, and ascertain that the recruits are properly treated by their instructors.

The elementary training of the recruit in drill and musketry extends over two or three months. Men who have passed through this stage are inspected by the commanding officer of the regiment, and if found satisfactory, join their company for duty.

The great principle in the German army is that each company drills its own men. In the words of the author of *Unser Volk in Waffen*, "The training of recruits in detachments, common to many armies, is unknown in Germany. Those who are to use the instrument are required to produce it. The preliminary education of the soldier is carried on, as it were, in the family, and not outside the house."

On passing the inspection, the recruits are first exercised in

outpost duty, marching and bivouacking, and afterwards in company drill. The latter lasts from six to eight weeks, and comprises not only movements laid down in the regulations, but a number of other evolutions calculated to prepare them for acting promptly, under orders of their commander, in emergency.

Company drill is followed by battalion drill, lasting about four weeks, at the end of which the battalions are inspected by the brigadier, by the divisional commander, or by the general commanding the district.



BRANDENBURG HUSSARS.

After this the battalions of each regiment are manoeuvred together, and the troops trained in the construction of intrenchments, in outpost and patrol duty, in swimming, and other means of surmounting the many obstacles which present themselves to the advance of troops in the field. Rifle practice goes on all the year round. As a preparation for shooting ball cartridge, the recruits are taught to fire with aiming and sighting tubes, and with blank ammunition. Each man is provided with 110 ball

cartridges per annum, and the troops receive, moreover, constant training in gymnastics and bayonet exercises.

In addition to the Line and Guard regiments, the German infantry comprises 21 battalions of Jäger.

A battalion of Prussian Jäger consists of 1 field officer, 4 captains, 17 subalterns, 4 hospital assistants, 12 artificers, 544 non-commissioned officers and men combatant, in all 582, together with 2 surgeons, 1 paymaster, and 1 armourer, making a grand total of 586 officers, non-commissioned officers, and men.

The total peace effectives of the Jäger battalions, including officers and employes, exceeds 12,000 men, exclusive of 500 one-year volunteers. Adding this number to that of the Line and Guard regiments, we arrive at a grand total of 360,000 men as the peace strength of the German infantry.

The present field equipment of the German infantry is the result of a competition inaugurated in April 1884, when 1,000 marks were offered by the German military authorities for the best pattern of helmet, and 900 marks for the best knapsack, together with smaller prizes of varying amounts for other articles of equipment.

Its total weight is 7·1452 kilogrammes, or about 15½ lbs. Shoes are carried as a temporary substitute for the Blücher boots. They are made to lace up, and when they are worn, the Blüchers are placed under the knapsack flap, which is cut somewhat long for this purpose.

The haversack is constructed to carry three, or, if necessary, even four days' rations, and an important point in regard to this part of the equipment is the fact that it may be carried without the knapsack on the straps provided for the latter. On outpost duty, and more especially in siege operations when the knapsack has frequently to be left in the cantonment or bivouac, the haversack may be carried alone, an arrangement which saves a very considerable weight, and gives, of course, a corresponding increase of efficiency. This equipment is known as the *Sturmgepäck*.

The knapsack is held by an ingenious combination of shoulder-strap, buckle-strap, and auxiliary strap known as the *Tragegerüst*, by means of which it is claimed that weight is distributed over the body in the most satisfactory manner.

Cavalry.

At the present time the German cavalry is organized in brigades of little uniformity. These brigades are attached to the infantry divisions, except in the case of 4 independent divisions.

92 RECENT CHANGES IN THE GERMAN ARMY.

There are in all 98 regiments of cavalry in the German Army:—10 of Cuirassiers, 4 of Heavy Cavalry, 28 of Dragoons, 20 of Hussars, 6 of Light Cavalry, and 25 of Ulan. Of the 98 regiments, 8 belong to the Guard—2 of Cuirassiers, 2 of Dragoons, 1 of Hussars, and 3 of Ulan.

The Cuirassiers in Germany are regarded as Heavy Cavalry, the Ulan as "Line" Cavalry, and the other regiments as Light Cavalry. Of the 98 regiments, 19 are *corps d'élite*—8 regiments of the Guard, the 17th and 18th Mecklenburg Dragoons, the 23rd



SUBALTERN OF THE LINE.—PRUSSIAN INFANTRY.

Hesse Dragoons, the Saxon Horse Guard, and the 17th and 18th Ulan. In addition to their numbers, the cavalry corps bear the name of the province in which they are raised, and in some cases that of their honorary colonel. As regards organization, the composition of every regiment is the same, whether Cuirassiers, Ulan, Dragoons, or Hussars. One or two important exceptions are made in the case of the Guards, who possess a greater number of officers, non-commissioned officers, and trumpeters, and who have retained the old sub-division of the squadron into 2 companies. Every

regiment is composed of 5 squadrons on a peace footing, but in the event of mobilization only 4 of these are raised to a war effective, while the fifth is left behind to serve as a *depôt*. This latter squadron is not, as is often the case in other European armies, regarded as a *depôt* squadron during peace. It is left to the discretion of the commanding officer of the regiment to designate, on receiving the order to mobilize, that squadron under his command which he thinks best to leave behind. In time of peace there are only 4 officers to a German squadron, the captain, first lieutenant, and 2 second lieutenants.

The composition of each regiment is, as aforesaid, almost the same. It consists as a rule of 2 field officers, 5 captains, 18 first and second lieutenants, 77 non-commissioned officers, 16 trumpeters, 573 *gefreite* and troopers, 5 hospital assistants, 20 workmen, in all 716 officers, non-commissioned officers, and men. The non-combatants are 2 or 3 surgeons, 1 paymaster, 5 veterinary surgeons, 1 armourer, and 1 saddler. All the accounts of the regiment are kept by the paymaster, who, while holding a commission, is usually promoted from non-commissioned rank. He is assisted by what is called the *zahlmeister-aspirant*, who ranks as a non-commissioned officer. The paymaster does not wear the regimental uniform, but a special dress common to all arms.

As regards horses, each regiment possesses 667, that is to say 133 per squadron and two extra animals for the staff trumpeter and the *zahlmeister-aspirant*, and on mobilization each regiment supplies 4 field squadrons and a staff.

The field effective consists of 2 field officers, 4 captains, and 17 first and second lieutenants, in all 23 officers with 606 non-commissioned officers and men, and 711 horses. On receiving the order to mobilize, the 4 field squadrons give up their untrained men and unserviceable horses to the *depôt* squadron, and receive the trained men and the serviceable horses of the latter in exchange. By this arrangement four squadrons in every regiment are always available for active service at a moment's notice. The *depôt* squadron is then recruited from the Reservists, and horses are requisitioned, so that within a few days it may be raised to a strength of about 270 men and 225 saddle-horses.

The training of the cavalry recruits differs in so far from that of their comrades in the infantry that a considerable number of the former are four-year volunteers, and, moreover, do not join at the same period of the year.

The 40 recruits who are on the average incorporated annually

with each squadron, are divided into two classes trained separately, but on much the same plan as that adopted in the infantry. On leaving the riding-school, the recruit joins his squadron for duty, and undergoes a course of two months' drill in field exercises. Rifle practice, as in the infantry, is not confined to any one period of the year. Forty rounds are issued annually to each man for the carbine, and fifteen for the revolver. The cavalry, moreover, are trained to swim rivers; and when possible each squadron is called out once a week for this most important exercise.



INFANTRY OF THE LINE.

In the manœuvres of 1886 a new departure was made, in order to render the independent cavalry divisions more mobile, and more fit to act without the assistance of other branches of the service. Several horse regiments were trained in throwing bridges across rivers, and exceedingly satisfactory results were obtained. Since then the construction of temporary bridges has been one of the principal duties which have devolved upon the cavalry during their annual exercises.

The horses needed for the German army during peace are

bought, as a rule, as three or four-year olds, by remount commissions, and trained at special remount depôts. The latter are large agricultural establishments, managed by military officials, and organized with the object of maintaining a constant and efficient supply of horses to the army. There are at present 20 of these depôts.

In the matter of remount arrangements, Saxony is an exception to the general rule. Her troop-horses are furnished by private contractors and placed directly on the strength of each regiment. The normal peace effective for the whole of the German army is about 100,000 horses, exclusive of the Gendarmerie.

All officers above the rank of lieutenant are required to mount themselves at their own cost. The State supplies horses only to subalterns. Each receives one horse for a period of five years; mounted lieutenants of other branches are not supplied with remounts from the military depôts, but receive a certain allowance and are then required to purchase their chargers from private dealers. The average service of a saddle-horse is estimated at ten years, of a draught-horse at nine years.

Between 8,000 and 9,000 remounts are annually required. These are obtained at prices varying between £16 and £70, the total expenditure amounting as a rule to about £300,000.

The most valuable remounts are obtained from the Haras of Trakenen, founded in Eastern Prussia in 1792. The horses supplied from this source consist principally of descendants of the old Lithuanian stock, modified by crossing with Arabian and English breeds. Hanover and Mecklenburg also supply a large number of very valuable remounts. Eastern Prussia, however, holds the first place, and furnishes annually more horses to the army than all other provinces of Germany combined.

The conditions under which requisition would be made on mobilization were laid down by a special Act of the Reichstag in 1873, and only slightly modified by a regulation of 1875. They may be briefly summed up as follows:—A general census of the horse population must be made every six years. On receiving the result of this census, the Minister of the Interior, in conjunction with the Minister of War, ascribes to each *corps d'armée* a special district from which the necessary complement of horses shall be drawn. Owing to the unequal distribution of horses throughout the Empire, these districts do not of course in any way correspond with the ordinary *corps d'armée* division of the country. The number of horses required in the event of mobilization is fixed by

the Commander-in-Chief of the army corps, and the incidence of the requisition is then entrusted to the discretion of the civil authorities. For this purpose each *corps d'armée* district is divided into a number of sub-districts. The latter are administered by civil Commissions. Each Commission is required to collect one-third more than the number of horses required from the district over which it exercises equine jurisdiction. Special Reception Commissions are then formed by the military authorities at various



BRANDENBURG CUIRASSIERS.

points in each district, and the remounts are forwarded under the care of their owners to one or other of these places.

The Reception Committee consists of military and civil officials. The former select the remounts, the latter determine the amount of indemnity to be paid to each owner. After the requisition has been made, the horses chosen are immediately despatched to their respective regiments under the care of men called out for this purpose from the Landwehr or Landsturm.

In the summer of 1889 several regiments of German cavalry were experimentally equipped with lances, and the reports were so satisfactory that in the autumn a considerable number of Dragoon and Hussar regiments were definitely armed with this weapon, to the extent of 120 men per corps, and in the following months the re-armament was extended to the remaining cavalry regiments of the army. The result is that, so far as weapons and equipment are concerned, the German cavalry is now practically homogeneous.

Artillery.

The German army maintains on a peace footing 18 brigades of artillery, which may be divided, for purposes of comparison, into three types.

In the first type the brigade comprises 20 batteries organized in 2 regiments—1 *corps d'armée* regiment of 2 divisions, each consisting of 4 batteries of field artillery, and 1 division of 3 batteries of horse artillery; and the second, or divisional regiment, of 3 divisions of 3 field artillery batteries each.

This may be regarded as the normal composition. Fourteen brigades out of eighteen are organized on this plan.

The artillery brigade of the XII. Corps forms a second type. It consists of 23 batteries—5 divisions of 4 field batteries each, and 1 division of 3 horse batteries.

The third type is that of the brigades of the XIII., XIV., XV. Army Corps. Each of these numbers 18 batteries, organized in 2 regiments, consisting of 3 divisions of 3 field artillery batteries.

By the Bill of 1st April 1887, 24 batteries were created. Eight of these—6 Prussian and 2 Wurtemberg—were raised at once to what is called the increased effective, that is, 6 guns were horsed during peace. Moreover, 11 other field batteries—7 Prussian and 4 Wurtemberg—which formerly horsed only 4 guns during peace, were increased to 6.

By these changes provision was made for the constant maintenance during peace of 41 batteries of 6 guns each, and these were distributed through the various *corps d'armée* as follow:—I. Corps, 6 field batteries; VIII. Corps, 3 horse batteries; XI. Corps, 1 horse battery; XIII. Corps, 3 field and 3 horse batteries; XIV. Corps, 5 field and 1 horse battery; XV. Corps, 12 field batteries.

This distribution is significant, for it will be noticed that the batteries of increased effective have been almost exclusively attached to army corps stationed near the French frontiers.

The 364 batteries of artillery which now exist during peace are composed as follows:—85 batteries of field artillery of 6 guns; 282 batteries of field artillery of 4 guns; 6 batteries of horse artillery of 6 guns; 41 batteries of horse artillery of 4 guns.

To sum up, the Bill of 11th March 1887 raised the peace strength of the German field and horse artillery to a grand total of about 38,000 men, with 21,000 horses.

As regards the use of artillery in the field, the new regulations lay down but few hard and fast rules, and the widest possible



PIONEER OF THE PRUSSIAN GUARDS.

margin is left for the exercise of individual discretion among commanding officers. The guiding principle appears to be to adopt almost any means of concentrating the heaviest possible fire upon the objective. With this in view, the regulations admit of the most rapid or the most cautious advance, the closest or most extended formations. The guns may be placed in almost any position, echeloned, aligned, or even one behind the other, so long as the great object is gained.

Engineers and Train.

The engineers of the German army have consisted, since the 1st of April 1887, of the following troops:—19 battalions of pioneers, 1 company of military telegraphists, 1 regiment and $\frac{1}{2}$ battalion of railway troops, 1 section of military balloonists.

Each battalion of Prussian, Saxon, and Wurtemberg pioneers consists of 4 companies on a peace footing. The 8 first are mobilized as field pioneers, as they are called; the last is increased by calling in the reserves of 8 companies, 2 of which are called garrison pioneers, and 1 field reserve pioneers.

In Bavaria this separation into two distinct corps exists during peace. The battalion of pioneers in that case numbers 5 companies—3 field companies, and 2 fortress companies.

The 16th Prussian battalion is an exception to the general rule. This corps, stationed in Alsace-Lorraine, consists exclusively of garrison troops.

The incorporation of garrison pioneers with garrison artillery is probably only a matter of time in Germany; and as a logical consequence of such a measure, the field pioneers would eventually form part of field artillery brigades.

Since the passage of the German Army Bill of 1887, the battalion of pioneers of the Guard has been increased by a fifth company of military telegraphists. It is probable that in the course of a few years each army corps will have one field telegraphic station at disposal, and the company recently created will form the nucleus of these special formations. Moreover, a school of military telegraphy for officers and non-commissioned officers has been founded at Berlin, and in the Budget of 1887–88 upwards of £15,000 was voted for the purchase of telegraphic *matériel*. This is the first of several instalments, which will probably amount in the aggregate to more than £80,000.

The new Army Bill, among other changes, definitely established the provisional balloon detachment, with an effective of 5 officers and 50 non-commissioned officers and men. These troops were first formed in May 1884, and stationed at Berlin under the command of a captain of the railway troops, assisted by 3 lieutenants selected from various arms of the service. The corps gradually assumed a more permanent character, and in 1886 was increased to a section commanded by a major, and consisting, in addition, of 1 captain, 3 lieutenants, and 30 non-commissioned officers and men. It is now regarded as a distinct and more or

less independent corps, and the men enter, on their retirement from active service, the reserve of this arm, so that after a few years a sufficiently large number of men will be available on mobilization. The head-quarters of the aërostatic service is situated in the south of Berlin, at the extreme western extremity of the Tempelhof exercise-ground. It consists of a series of workshops, in which every requisite for the construction, inflation, and practical application of the balloon in warfare may be turned out at the shortest possible notice. Men are trained not only in



PRUSSIAN DRAGOON OF THE LINE.

the management of captive balloons, but in aërial navigation, so far as the present development of the science will allow.

The peace effective of the German engineers is, adding 1,500 one-year volunteers and Ersatz Reservists, in all, 14,440 men, including officers and medical staff.

The German Army Bill of 1887 raised the whole of the 18 battalions of the Train to the uniform strength of 3 companies

each, and this change involved the creation of not less than 16 new companies.

Each company is composed of two sharply divided sections: firstly, permanent troops, including *cadres rengagés* and privates of three years' service; secondly, the train proper, consisting exclusively of men who only serve 6 months.

The permanent troops of each company comprise—4 officers and 67 non-commissioned officers and men. The second portion of the company is maintained at a uniform strength of 38 men, giving a grand total of 4 officers and 105 non-commissioned officers and men.

Each train battalion and the ensign company maintains a *depôt* charged with the care of the train *matériel* properly so-called, and the sanitary *matériel* of the *corps d'armée* to which the battalion is attached.

The New Drill Book.

The German army since the war has seen many changes; its organization has been altered and re-altered; its armament and equipment have undergone serious modifications; it has been increased in numerical strength; the arrangements for its mobilization have been improved, and it would appear that all that can be done has been done to make it as efficient as possible. But perhaps the most important event in the recent military history of the country was the appearance, in September 1888, of the new drill regulations for the German infantry. They are in every sense a radical departure from the old cut-and-dry systems of Prussian tradition—the cast-iron rigidity, as it has been aptly called, of the old school, which led to Jena and Austerlitz, but which until now has never been entirely broken with. The principle involved in the new regulations is that the training of the soldier during peace shall be simply and solely that which may best fit him for his duties in war. No movements of a purely ornamental character are now admitted, and, in fact, very severe penalties are provided against officers who may indulge in “fancy drill” with the object of improving the parade appearance of their corps.

The magazine rifle, with which the troops are now armed, is on all ordinary occasions used as a single-loader. During marches it may be carried at ease on the right or left shoulder, under the arm or suspended by the sling. The bayonet exercise forms part of the gymnastic training of the men, and is not included in the drill-book.

42 RECENT CHANGES IN THE GERMAN ARMY.

Very great importance is attached in Germany to the training of the infantryman in skirmishing. The instruction of the recruit in this branch commences, in fact, almost immediately on his joining the colours. So soon as he can march, load, and aim with tolerable ease, he is entrusted to the care of a trained soldier, who puts him through a thorough course of skirmishing.

The infantryman is moreover carefully taught to make judicious use of cover. For this purpose the recruit is taken out two or



BAVARIAN DRUMMER.

three times a week into the country, the scene being changed as often as possible.

The company, which in round numbers is 250 strong on a war footing, is divided into 3 platoons, the platoon into half platoons, and the half platoon into sections. Each section forms from 4 to 6 files, and each platoon consists of at least 16 files. The platoon is formed in 2 ranks. Each man touches his neighbour with the left elbow, just sufficient space being allowed to avoid crowding. The lieutenant commanding the platoon is placed 2 paces in front of its centre; one non-commissioned officer is placed on each flank

of the front rank; the others are distributed at a distance of 2 paces in rear of the rear rank. Firing is either by volley or file. File firing may be slow or rapid, *i.e.* with or without the magazine.

Every company officer carries a whistle, with which the command "cease firing" is given. No oblique aiming is admitted. The front of the firing-line must always be perpendicular to the object aimed at.

Very great efforts are made to maintain the strictest possible fire discipline; and the most definite orders are given to the men in the firing-line, for instance: "At the artillery on the Green Bluff, back-sight 800 metres, ready, aim, fire, load." "At the skirmishers lying down straight in your front, back-sight 500 metres, fire by file." Two or three men accustomed to estimate distance are kept near each platoon commander.

Square is formed from company column at the command "Form square," but it is to be effected "in the shortest way." The independence of the company commander is indeed one of the most striking features of the new regulations, and this applies not only to drill but internal economy.

Peace and War Strength.

The table of peace effectives, attached annually as a kind of supplement to the War Budget, is the best authority available for estimating the strength of the German army. It is, however, to a slight extent misleading, in that several branches usually included in the peace strength of an army are systematically omitted. The table gives, in fact, only the strictly combatant elements of the army.

The latter embraces during the Septennate, in round numbers, the following effective:—19,260 officers, 468,400 non-commissioned officers and men, 1,800 surgeons, 850 paymasters, 640 veterinary surgeons, 200 armourers, 90 saddlers; in all 491,240 of all ranks.

The Commissariat Corps, the Administrative Corps, &c., are omitted from the list, together with a few strictly combatant elements which do not come within the scope of the Budget since they are to a certain extent self-supporting. The one-year volunteers, for instance, who maintain themselves at their own cost, number, in round figures, about 8,400 men.

A part of the first levy of the Ersatz Reserve, who may be called up for eighteen weeks' drill, form practically, of course, a portion of the effective standing strength, for a considerable sum has

been voted annually since 1881 for ensuring their annual training.

On the average about 20,000 reserves receive yearly a training of ten weeks, and of these about one-half serve a further period of six weeks with the colours. The tendency has been, during the last few years, to extend the period of training to the full limit of eighteen weeks, whilst slightly decreasing the number of men called out. Nearly half the total called up for training in 1886 and 1887 were detained with the colours during the full term.

The 158 members of the Commissariat Corps, the 3,106 officers and men who compose the Administrative service, the 337 draughtsmen, 21 chemists, 608 non-commissioned officers employed in the administration of the arsenals, 227 officers in the department of Military Justice, and 2,090 men composing the second line of the Train should also be included in the estimate of the total peace strength of the German army. The total obtained in this way amounts in round numbers to 525,000 men, and it should not be forgotten that there are, in addition, 45,000 on *Königsurlaub*, who may be called to the colours at a moment's notice. Moreover, the Gendarmerie, who are maintained at the cost of the Ministry of the Interior, are not included in this estimate. They number in round figures 9,500 officers, non-commissioned officers, and men, and on the outbreak of war would most probably be employed, if not actually in the field, at least in such positions that they would set free members of the active army who would not otherwise be available. Finally, about 130,000 Reserves and Landwehr have been annually called up for training during the last few years, and these, of course, during their service with the colours, form a very considerable addition to the existing peace effective. In order to maintain the army at this strength, about 190,000 men annually join the colours, while as many are dismissed into the Reserve. The one-year volunteers distributed over the various branches of the army number roundly 18,500, the artificers, &c., 6,500, and the second part of the contingent 19,500.

Of the 130,000 incorporated, two-thirds serve on an average 2 years 10 months and 3 weeks with the colours, while the other third are dismissed on *Königsurlaub* during their third year of service.

Very great importance is attached in Germany to maintaining the permanence of these effectives. The 2,140 infantry companies are kept at a constant strength from the time the recruits arrive in November to the conclusion of the autumn manœuvres in the



PRUSSIAN SKIRMISHERS.

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following September. The effective of 69,182 men forming the German cavalry is constant throughout the whole year; but the field, horse, and garrison artillery, the engineers, railway troops, and train, suffer, like the infantry, a reduction of strength during October, when the men whose term has expired leave the colours, and preparations are being made for receiving new recruits.

On the outbreak of war, Germany could mobilize 18 *corps d'armée* and 1 division. Each *corps d'armée* in the German army consists of the following troops:—(1) Two divisions of infantry, each of 2 brigades, each brigade comprising 2 regiments of 3 battalions; 1 cavalry regiment, and 4 batteries of field artillery, together with 1 or 2 companies of engineers and a pontoon section; (2) 1 regiment of fusiliers; (3) 1 battalion of Jäger; (4) the corps artillery, comprising 6 batteries of field artillery and 2 batteries of horse artillery; (5) the ammunition train; (6) 1 detachment of engineers; (7) 1 special pontoon section with sufficient *matériel* for the construction of a bridge 130 metres long; (8) 12 field hospital detachments; (9) 5 commissariat detachments; (10) 5 transport detachments, a field bakery, and one or two other auxiliary services. The *corps d'armée* has not, strictly speaking, any special body of cavalry, for those regiments which are not attached to infantry divisions are united to form independent divisions.

In estimating the war strength of the German army it is necessary to take into account several very inconstant factors. According to the *Monatshefte zur Statistik des Deutschen Reichs* (1888), more than 1,200,000 emigrants left Germany during the ten years from 1878 to 1887. The total loss to the Empire during the last twenty years may be estimated on this basis at scarcely less than two millions, but what proportion of this loss is borne by the army is known only to the General Staff. Having regard to this and to the extreme reticence of the German military authorities in all matters relating to the available war strength of the army, it is scarcely a matter for surprise that the estimates which have been made by outside computators should vary considerably. Colonel Rau, in his *Etat Militaire des Principales Puissances Etrangères* places the war effective at six million men; the *Revue Militaire de l'Etranger* at more than seven million men; while yet other authorities have placed it as low as four millions, and as high as eight millions.

The annual contingent of men drafted into one or other branch of the army furnishes the most trustworthy means of estimating the war strength of the Empire. The contingent numbers as a

rule about 800,000 men, and the army at present includes twenty-eight contingents. "Waste" in Germany is estimated at 3 per cent. per annum, and calculated on this basis the actual strength of the army amounts to 5,700,000 men. There are probably a very large number in excess of these on the lists, but in the case of the Landsturm even the authorities have no means of ascertaining, except on mobilization, whether men nominally liable for service are actually fit to take the field, and a considerable proportion would necessarily be found valueless in the event of war. The 3 per cent. of "waste" per annum is calculated to cover this loss, so that the 5,700,000 men obtained by this system of calculation may be considered physically fit for service.

NOTE.—Since this article was written two important modifications have been made in the constitution of the German army. In the first place, the order has gone forth for the formation of two new army corps, the 16th and 17th, with head-quarters at Metz and Dantzic respectively; and, secondly, the peace strength of the army has been fixed, for the period 1st October 1890 to 31st March 1894, at 486,983 men, excluding officers, volunteers and non-combatants. During this period the infantry will consist of 538 battalions, the cavalry of 465 squadrons, the field artillery of 484 batteries, the garrison artillery of 81 battalions, the pioneers of 20 battalions, and the train of 24 battalions. This change represents a net gain to the peace establishment of 4 battalions of infantry, 70 batteries of field artillery, 1 battalion of pioneers, and 3 battalions of train.



Naval Warfare:

ITS PRINCIPLES AND PRACTICE HISTORICALLY TREATED.

By REAR-ADMIRAL P. H. COLOMB.

CHAPTER XV.

THE CONDITIONS UNDER WHICH ATTACKS ON TERRITORY FROM THE SEA SUCCEED OR FAIL—(continued).

Spain in 1718, being in command of the Mediterranean Sea, conquers Sicily.—Byng appears, and destroys the Spanish fleet.—Sea round Sicily commanded by the British, Sicily offers to surrender.—Case of Sardinia parallel to that of Sicily.—Spanish attempt on Ross-shire a failure.—Vigo raided by Mighells and Lord Cobham.—Capture of Porto Bello remarkable as the direct attack by ships.—Cartagena, in the West Indies, bombarded by Vernon.—Surrender of Chagres to simple bombardment.—Change in strategic condition of West Indian waters in consequence of arrival of Spanish and French fleets.—Misapprehensions of contemporary historians.—Arrival of Ogle and departure of French fleet reverses strategic conditions.—Cartagena attacked.—Incomprehensible failure.—St. Jago de Cuba.—Failure of attack from personal causes.



SPAIN in 1718 had crept up considerably in naval power, yet was admittedly incapable of contending against England for the dominion of the sea. Nevertheless, she held fallacious ideas as to the possibility of making and holding conquests which required free sea-communications for their maintenance. She proposed to wrest the island of Sicily from the House of Savoy against the will of the power which would, when it chose, command the Mediterranean Sea, and, of course, to hold it in spite of opposing naval force.

In July 1718, she herself being in command of the Mediterranean, a Spanish army of 30,000 men, convoyed by a fleet of 22 sail of the line, had no difficulty in possessing itself of almost the whole island, the fortress of Messina being, in fact the sole possession remaining to the House of Savoy.

But in August the interfering British fleet appeared off Messina, under the command of Sir George Byng, and began the series of

operations which could only result in the undoing of all that the Spaniards, in their want of comprehension of the problem, had been at such pains to do. The Spanish fleet, consisting of 17 sail of the line,* had quitted Messina for the east coast of Italy only the day before Byng with 22 sail of the line arrived there. Byng made fair proposals to the Spanish general, the Marquis de Lede, and these being rejected, he scented the prey of the Spanish fleet and made sail after it. War was not yet declared, but the conquest of Sicily from a British ally was, according to Byng's construction of his orders, in itself such a declaration. The Spanish fleet cannot be said to have made any attempt to really defend itself against a force not only numerically but individually superior, materially and morally. Byng's work at the ensuing battle, called the Battle of Cape Passaro, was a chase and a destruction. Nine sail of the line, 3 frigates, and 3 smaller vessels were taken; 3 sail of the line and 5 smaller vessels were burnt, and only 5 sail of the line, 7 frigates, and some galleys and smaller vessels, escaped. The fate of Sicily was sealed by this battle, and the fact that the citadel of Messina surrendered to the Spanish army a month afterwards was of no account. It was like a knight's excursion over to the opponent's side of the board to capture a pawn and be himself cut off.

War was declared by Great Britain against Spain in December 1718, and the weaker naval power immediately set about concocting one of those descents which might possibly not require the command of the sea for its success, evasion of the superior naval force being assumed a possibility. Spain proposed to land troops in Scotland, to raise the country on behalf of the Pretender. Forty transports, with 5,000 troops on board and abundance of the munitions of war, sailed from Cadiz early in 1719 under convoy of 5 men-of-war, bound to the coast of Ross, the whole under the control of the exiled and proscribed James Butler, Duke of Ormond. As usual, the British force was far behind in time, and it was not till April that Sir John Norris put to sea on the defensive. But more than a month before he sailed, winds and weather had practically put an end to the Spanish expedition. On the 28th of February the Spaniards fell in with a gale of wind when they were 150 miles west of Finisterre, which broke up and dispersed the whole fleet. Only 5 transports and 3 frigates reached Ross-shire, from which were landed some 400 men under the Earl Marshal, the Earl of Seaford, and the Marquis of Tullibardine. Major-

* Ships of 44 guns and upwards.

General Wightman met this force after it had drawn some 1,500 Scotchmen to the Jacobite standard, and defeated it. Whereupon the invaders surrendered, and the Scottish insurgents fled hither and thither. Naval force was also on the spot, and sufficiently numerous to have checked all reinforcement.*

Byng, having cleared the way for the reduction of Sicily, allowed that matter to stand over for the winter according to the established course of warfare at that time. He wintered at Port Mahon in Minorca, and in the early spring proceeded to Naples to concert measures for reversing the Spanish conquest, he being in command of the sea, with the Empire behind him for troops, while the Spaniards in Sicily were wholly dependent on the island itself for reinforcement and supply.

The first attack was made upon Milazzo, on the north coast of Sicily, which was captured, and apparently became the landing-place for the first body of troops destined for the capture of Messina.† The transports were sent back to Naples for a reinforcement, and Byng seems to have then captured the Faro of Messina, and advanced on the town by land and sea. The town soon surrendered, and then the attack on the citadel began. Some of the Spanish men-of-war had taken refuge under the guns of the citadel, and hoped to shelter themselves till at least the citadel itself should fall. But Sir George Byng, observing that awkward questions would arise as to the disposal of these ships, caused a special battery to be erected for their destruction, which was duly effected before the citadel fell. This took place on the 7th October 1719, and on the 12th November Sir George sent his whole fleet, except the flag-ships, to Trapani, in the extreme west of the island, as convoy for 7,000 foot and 500 horse destined for its attack. This force possessed itself of Trapani, Marsala, and Mazza, while other forces landed from other transports took Mola, Tavornina, Cantabiano,‡ and other ports. The work of the navy was, in short, of the usual character, namely, to prevent interference from the sea; to convoy, land, and support troops; and to supply ports after they were captured. Hervey § says that on the capture of Trapani the Marquis de Lede offered to evacuate the island on terms, so that the conquest was then effected. That

* Hervey's *Naval History*, vol. iii., p. 406.

† Cruisers stationed to watch Palermo intercepted a squadron of 3 ships, with troops and supplies for the Spaniards. Two were captured and the third burnt.—Lediard, vol. ii., p. 883.

‡ Not identified.

§ *Naval History*, vol. iii., p. 410.

the terms were rejected, and that the island was not evacuated till the armistice preceding the peace, does not in any way touch the main position that Spain could not hold even a great territory like Sicily, with a friendly population, against the will of the power commanding the sea. It is at the same time sufficiently manifest that it was only her temporary command of the Mediterranean which enabled her even to consider the attack. Her mistake was in supposing that she could in any way gain by a hold on Sicily destined to be shaken loose the moment the superior navy put in a word.

Just as she possessed herself of Sicily without difficulty, when there was nothing to interrupt her by sea, so had she possessed herself of Sardinia. Had the war continued, it must have been wrested from her as Sicily was, but no attempts of this kind appear to have been made by the English, owing to their forces being occupied by the attack on Sicily. Spain was forced to abandon both islands as one of the conditions of peace.

The battle of Cape Passaro in 1718 having shown that there was no chance whatever in the command of the sea being contested by Spain, and the fate of the expedition to Ross making it improbable that the Scottish Jacobites could expect any farther support from the Spanish Government, the English Government turned its attention to reprisals upon Spanish territory. These mark the second phase in the naval war, as they could not be safely or properly undertaken until the command of the sea was assured. Lord Cobham was appointed to command a body of 4,000 troops, the transports to be convoyed by a force of 5 sail of the line, under Vice-Admiral Mighells. The destination of the expedition was kept secret, but Corunna was the point of attack, and the fleet and transports sailed for that port from St. Helens on September 21st. It is stated that after waiting off the coast of Galicia for three days for the two men-of-war which failed to arrive, the delay was sufficient to change the destination of the force. Vigo was fixed upon, and Lord Cobham landed his troops three miles from the town on September 29th. The town surrendered on October 1st, the regular troops retreating into the citadel, which appears to have grown up since Sir George Rooke's attack fifteen years earlier. Batteries were erected on shore and guns landed in increasing numbers, while mortars both on shore and afloat were used against it. The citadel surrendered, on the 8th, after nearly half its defenders had been placed *hors de combat*, and the garrison marched out. Ponte Vedra at the end of

the bay was subsequently taken, and its guns carried off, but Redondela was found undefended, with its old fort in ruins. The guns being everywhere destroyed or carried off, and the forts blown up, the troops were re-embarked, and the expedition having secured plunder, chiefly in the way of arms and ammunition destined for the service of the Scottish Jacobites, to the amount £80,000, returned safely to England.*

The loss to the English was very small, two officers and three or four men only being killed. The whole expedition was qualified for success, being sufficient, well handled, and arriving over a commanded sea. It may be observed that again it was the land forces that made the attack, and that they landed where there were no works to oppose them. We also get a view of the action of the fortification policy of those days: A citadel shelters a body of troops quite unable to hold their own in the open, and causes a delay of eight days by the strength which the work conferred.

The reflection occurs that the delay was useless, and only caused additional loss to the Spaniards; but that it might have been of supreme importance had a relieving force been in a position to arrive before the eight days had expired. As the matter stood, it is impossible to say that Spain was in the smallest degree advantaged by her fortification of Vigo, though if the strength of the fortification of Corunna had to do with changing the objective to Vigo, we have their value exhibited there. The difficult strategical and economical question appears to hinge on relative cost. Was Spain at this time spending on her fixed coast defences and their garrisons a sum which would have provided a fleet which must be watched before any territorial attacks could be considered by her enemy? If there had been five or six sail of the line at Corunna, Admiral Mighells must have kept his whole force there to watch them, and the accidents of blockade would have made it necessary to have a like fleet with Lord Cobham's transports. If it had been necessary to double the naval force employed on the expedition, would it have been contemplated at all? History seems to bring these questions before us as of everlasting practical importance.

The difficulty, if not the impossibility, of carrying attacks on territory to a successful issue in the face of a naval enemy was further illustrated in this year, 1719, by what took place in the Baltic. Russia had attacked Sweden, and being so far in

* Lediard, vol. ii., p. 885; Hervey, vol. iii., p. 412.

command of the Baltic that the Swedish fleet could not make even the appearance of defence, she had landed 15,000 men near Stockholm. Sir John Norris being despatched with a fleet in order to effect a pacification, joined the Swedish fleet at Carls-crona. The intelligence was enough for the Tzar, who immediately withdrew his forces and retired to Revel.*

Before the outbreak of the Spanish war, which was proclaimed on October 23rd, 1739, preparations for it had, as usual, been made on a considerable scale. Two squadrons with designs of territorial attack were ordered to be got ready, the one under Captain Anson and the other under Captain Cornwall. The original intention was that Anson's squadron was to proceed round the Cape of Good Hope, while Cornwall's was to pass round Cape Horn. Cornwall was then to attack the Pacific side of the Isthmus of Darien, while Admiral Vernon was to attack the eastern side. Afterwards, Anson's and Cornwall's squadrons were to rendezvous at the Philippines for operations there. Ultimately the idea of Captain Cornwall's squadron was laid aside, and Anson took his place, prosecuting his celebrated voyage. This voyage does not concern us here farther than its mere mention as an expedition designed chiefly against territory which was known to be unprotected by any naval force, and so far at the mercy of the attacking expedition.

Vernon, with 5 sail of the line, sailed from Spithead for the West Indies on July 23rd, 1739. After touching at Antigua, he arrived at Jamaica on September 11th, where, on the 28th, he was joined by a sixth line-of-battle ship, and where a decision was come to to make an attack on Porto Bello.

At this time Porto Bello was the depôt for Panama, from which it is distant some 70 miles, and the other Pacific ports of Spain, and it was here that the great fleets of galleons, the never-failing quarry of the British seamen, were loaded with their precious cargoes. The bay is about a mile deep, and the entrance is about half a mile wide. At the entrance, on the north side of the bay, close by a steep rock stood a strong castle, mounting 78 guns, and a lower battery mounting 22 guns, placed close to the water. These works were garrisoned by 300 men. On the opposite side of the bay, about a mile farther up and on a height, stood the Castle Gloria, which consisted of two regular bastions, mounting 90 guns, with a curtain between them mounting 22 guns, and another battery facing down the harbour, which carried 8 guns.

* Lediard, vol. ii., p. 884; Hervey, vol. iii., p. 415.

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These works were manned by a garrison of 400 men. Rather above these defences, on a point running into the bay, was the strong quadrangular redoubt of Fort St. Geronimo, mounting many guns. The cannon of Gloria and St. Geronimo were intended to cover and protect the anchorage. At the bottom of the bay was the town of Porto Bello, which then contained some 500 houses. The place was reputed to be immensely strong, and not to be attempted but by an army of 8,000 men, acting with a squadron. Vernon, however, had declared in the House of Commons that he could take it with only six ships of war, and we now find him sailing thither to fulfil his promise with the force he had named. His six ships were manned by 2,495 men, and the Governor of Jamaica had lent him 200 land forces. If Vernon was fully aware of the nature of the defences he was expecting to break down, he must also have known that his undertaking was somewhat desperate.*

Vernon's plan of attack was chiefly by the ships, but he believed that as the north shore was steep-to, his ships standing in line of battle, with a fair wind, might pass the Iron Castle at less than a cable's length, and so overpower its guns by the number and rapidity of fire of his own, accompanied by the small arms available at that distance. He gave corresponding orders; also directed the ships to tow their barges alongside and their long boats astern in standing in, so as to be ready at a moment's notice to throw appointed portions of the ships' companies on shore as storming-parties.

The squadron did not sight Porto Bello until the evening of the 20th November 1739, and it anchored 18 miles off shore for that night. On the morning of the 21st it stood in, as arranged, in line of battle, and close under the guns of the Iron Castle, and began the attack. The exceedingly close quarters adopted by the Admiral had all the advantages that he had bargained for; for after a sharp exchange of fire for about twenty-five minutes, it was seen that the Spaniards were being driven from the lower battery by the musketry of the squadron, which rendered it possible to land the storming-parties. In this way the lower battery was quickly mastered, and that success was at once followed by the capitulation of the Iron Castle. Only 5 officers and 35 men actually surrendered, the remainder of the garrison of 300 having either been killed or wounded, or having fled, before the British entered the

* Hervey, vol. iv., p. 98; Entick, p. 746.

works. The loss in the squadron was inconsiderable, amounting in killed and wounded to only 19 men in all.

After the capture of the Iron Castle, the ships appear to have anchored, and a distant fire took place between Vernon's flag-ship, the *Burford*, and Gloria Castle without any great effect. On the morning of the 22nd the Admiral went on board the *Hampton Court*, the ship of Commodore Brown, who had led in the day before, for the purpose of arranging plans to warp the ships up to the Gloria and St. Geromino fortresses during the ensuing night, but the arrival of Spanish proposals to capitulate rendered these plans unnecessary. Terms of surrender were at once arranged, and before night the British were in full possession of Porto Bello.*

This operation was so far remarkable as following the example set at Gibraltar, and making the attack by the ships on the forts the primary, instead of as usual the secondary, part of the attack. We have noted that at Gibraltar there was hardly a choice in the matter, and that, contrary to principle, the landing there was in face of the works, because the geographical conditions forbade any other mode of attack. Here, at Porto Bello, the geographical conditions in no way compelled a departure from the established and more certain form of attack, but yet the want of land forces equally compelled Vernon, if he were to make the attack at all, to make it as he did. There being then no choice, we can only note that the extreme boldness, not to say rashness, of the attack was probably justified by some previous belief that the conduct of the garrisons of the Porto Bello fortresses would turn out to be what it actually was; and that, as at Gibraltar success was hoped for from the numerical weakness of its garrison, so at Porto Bello victory was achieved as a consequence of the just estimation of the moral weakness of its defenders.

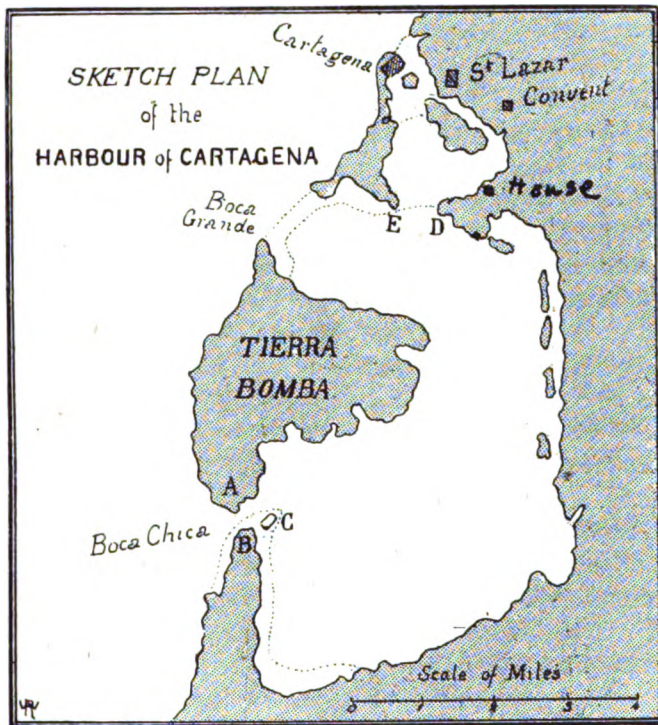
Vernon next determined to make an attack on Cartagena, though, I think, without a definite design of possessing himself of the place as he had done in the case of Porto Bello. Perhaps the determining cause in this new design was the reinforcement which had reached him under convoy of the *Greenwich*, of fire-ships, bomb-vessels, and store-ships. Almost certainly the possession of the bomb-vessels determined the mode of attack, which was negatively governed by the absence of any effective supply of land forces.

Cartagena, as may be seen from the sketch chart, is peculiarly situated. The town is open to bombardment from the sea, but the port which gives the town all its importance, can only be ap-

* Entick, p. 749; Hervey, p. 103; Berkeley, p. 669.

proached through the Boca Chica, a passage so narrow that only one ship can enter or leave it at a time. The possession of Boca Chica was, therefore, almost a necessary preliminary to the possession of the town, unless by bombardment or other direct form of attack the town should be reduced to the surrendering point, in which case the port might be expected to fall with it.

Vernon arrived within sight of the high land about Sta. Martha, east of Cartagena, on March 1, 1740. He had with him only 5 ships of the line with 7 smaller vessels and the bomb-vessels, his



A.—Position of Fort St. Louis and Redoubts. B.—Fascine Battery, &c.
C.—Fort St. Joseph. D.—Mancinilla. E.—Castillo Grande.

own flag-ship, the *Burford*, having been left behind at Port Royal to careen after running ashore at Porto Bello. He left one ship to windward, to guard the approaches from the eastward, and himself anchored with his ships in the open water off the town of Cartagena on the 3rd. On the 6th the bomb-vessels were placed in position under cover of the smaller vessels, and they opened and continued a bombardment until the morning of the 7th. A certain amount of damage only was done—"enough," as Vernon wrote, "to awaken Don Blas de Lezo, and to let him know I was not

stealing upon him by surprise." This being accomplished, Vernon, on the 10th weighed, and after closely examining the coast and Boca Chica, with a view to possibly subsequent operations, stood away for Porto Bello to water, and with the intention of operating by way of bombardment upon the fortress of Chagres.*

This operation was systematically and deliberately carried out by the bomb-vessels, and three of the line-of-battle ships, using only their lower tiers, and firing slowly and carefully, from the 22nd of March 1740 till the 24th, when the fortress hoisted a flag of truce and surrendered.

The fall of Chagres after an attack by bombardment alone, comes upon us now, we may observe, as in some sort a novelty in naval war. We have had captures of forts by the attack of land forces, without any direct assistance from the ships; we have had them when the attack by ships has been made subsidiary to that by land forces; and we have seen the captures made, as at Gibraltar and Porto Bello, where the main attack has been by the ships, and the land attack has completed it. We have also had bombardments where no surrender has followed. This fall of Chagres appears to be the first instance of capture following simple bombardment, but the course of history will show us that the result was exceptional, and depended on the geographical situation of the place, and the moral fibre of the garrison defending it.

All this time nothing is heard of any possible opposition by the Spanish at sea, and we therefore observe the results in the capture of Porto Bello and Chagres, and the bombardment of Cartagena, of the strategic condition of a commanded sea. It can hardly be a mere coincidence that the expectation of the arrival of Spanish naval force, and the cessation of territorial attacks, should again be simultaneous. In the beginning of June 1740, Vernon had a despatch from the British Minister at Lisbon, announcing the departure from Cadiz of a Spanish squadron, said to be destined for the West Indies. Vernon thereupon put to sea from Jamaica and cruised to windward, in the hope of falling in with them; but getting no intelligence he returned to Port Royal.†

* Berkeley, p. 674; Entick, p. 749; Hervey, p. 110.

† The naive misapprehension of historians in general as to the operating causes in the circumstances of naval war is aptly illustrated by a remark of Hervey (vol. iv., p. 114). He says, "The abatement of this commander's (Vernon's) zeal, first appeared in the shortness of this cruise." Hervey had clearly made a mental note of the cessation of Vernon's activity after such a group of exploits as he had just described. But he did not in the least connect it with the apprehended arrival of a Spanish fleet in West Indian waters.

Although I do not find any mention of it, it seems more than probable that Vernon at this time had notice of the great likelihood that France would presently throw in her lot with Spain, and he may have known that not only was the Spanish squadron from Cadiz to be expected, but that another Spanish fleet,* accompanied by a French one, had sailed from Ferrol, for a like destination. I think that Vernon must have been aware, in the autumn of 1740, that the balance of power in the West Indies, so to call it, was about to be turned, and that this consideration tied his hands. It seems of all things the most unlikely that so soon after the daring and almost reckless attack upon Porto Bello, the admiral could have changed his nature, and have sunk, as he was accused of doing, into a slothful repose.

To re-establish command of the sea in the West Indies, Rear-Admiral Sir Chaloner Ogle sailed from Portsmouth on the 26th October 1740 at the head of 21 sail of the line,† besides frigates and fire-ships, and with a considerable body of marines, and land forces under Lord Cathcart.‡ As usual, the actual departure of this fleet was much behind the appointed time. Vernon had such intelligence of its intended sailing, that he put to sea from Jamaica with his whole squadron on October 3rd, hoping to fall in with Ogle on the coast of Hispaniola. Instead of this, he only heard on the 12th of its detention by contrary winds at home. On the same day, he learnt that the Spanish Ferrol squadron, under Admiral Torres, had arrived at Porto Rico on September 7th, and had sailed for Cartagena on the 25th of the same month. Soon after this, he learned that the French fleet under the Marquis d'Antin had arrived at St. Louis in the west of Hispaniola, and that possibly some enterprise against Jamaica was threatened although war was not yet declared. This intelligence necessarily drove the admiral back to his headquarters at Port Royal, where he busied himself with preparations for defence, pending the time when the arrival of Ogle should enable him once more to take the offensive.

As, taking all together, the different and probably hostile forces were at bay, no steps were taken on either side, and Ogle arrived

* Twelve sail of the line. Entick, p. 751.

† Entick, p. 752. Hervey (vol. iv., p. 107) says 25, and gives their names, but several of the names do not appear in the list which Entick gives of the total West India fleet united under Vernon.

‡ The regiments of Harrison and Wentworth, 6 regiments of marines, and detachments. Entick, p. 751.

at what was then the neutral island of Dominica on December 19th, where Lord Cathcart died. Ogle then went on to St. Christopher's and sailed thence for Jamaica on December 28th, where he arrived on January 9th, 1741.* A council of war was presently held to consider the situation, and determine future proceedings. The resolution come to was: "That the whole fleet should proceed to windward, to observe the motions of the squadron under the command of the Marquis d'Antin, which had been for some time at Hispaniola; and that Captain Dandridge should be sent before in the *Wolf* sloop, to get intelligence." "The resolution," says the historian Hervey, "taken by the general officers at this council was very surprising, and their motives for forming it quite inexplicable. Every circumstance seemed to concur in pointing out an immediate attack upon the Havannah, by the reduction of which Spain would have been humbled into the most abject submission, and as it lay to leeward of Jamaica, the fleet might have reached it in two or three days. Instead of directing their force against that quarter, it was resolved to beat up against the wind to Hispaniola and St. Domingo, to observe the motions of the French squadron. Three weeks elapsed from the arrival of Sir Chaloner Ogle to the sailing of the fleet under Vice-Admiral Vernon; and when another fortnight had been spent in a fruitless cruise, intelligence was received that the French fleet had sailed for Europe in great distress, being destitute of men and provisions, neither of which could be procured in the West Indies."† How easily the point of naval operations may be missed, is once more illustrated by this extremely instructive passage. The historian has been following through three volumes and a half the narrative of these incidents which I have brought together into a single group. As he has studied them, they have come into his mind mixed with an immense variety of other incidents, and it has never struck him that law has been governing every step that has been taken. So he does not perceive that Vernon's later conduct, and the resolution of the council of war, are only of a piece with all that had hitherto taken place in concordance with naval success. He has no consciousness that the fall of Porto Bello and Chagres were primarily due to the absence of possible interfering naval force in the West Indies, and that with the 12 sail of the line of Spaniards at Cartagena, beside the Cadiz squadron of 5, and the 14 French

* On his way six of his ships had a partial action with a small French squadron, supposing them to be enemies. They separated with some loss and mutual apologies.

† Hervey, vol. iv., p. 134.

sail of the line at St. Domingo,* Vernon's 29 sail of the line was not a force to overawe each squadron separately and liberate a sufficient force to operate against Havannah at the same time. Yet nothing can be more certain than that any territorial attack undertaken by Vernon at this time would have been culpably foolish and rash, and would have deserved the terrible condemnation which must have been pronounced upon it, had France and Spain taken proper advantage of the British mistake.† More than foolish and rash would it have been to run to leeward to Havannah, leaving the French to windward of Jamaica, and offering, as it were, the right cheek for a blow which would be accepted on the left cheek subsequently.

But the receipt of news that the French fleet had quitted the West Indies altered the whole position, and on February 16th a council of war decided to make an attack on Cartagena.

The force at Vernon's disposal was now 29 sail of the line with 22 frigates, fire-ships, and bomb-vessels, and transports carrying, with the men-of-war, a body of about 12,000 troops. The fleet itself was manned by about 15,000 men, and the total number of the ships was about 124.‡ This was a gigantic armament, and if it had been found possible to destroy Porto Bello with about one-fifth of the ships and about one-twelfth of the men, the doom of Cartagena must have appeared already sealed when the great fleet turned its course to the southward and steered for the place. On the 4th of March the armada dropped its anchors in the open water to the northward of the town of Cartagena, and at once made dispositions as though a force was about to land on that part of the coast, and so drew the garrison to intrench itself in that direction.

Cartagena was not unused to hostile demonstrations ending in capture. Sir Francis Drake had sacked it in 1585, and not long afterwards it had been again sacked and left in ruins by a few privateers. In 1697 it had been captured by the French under de Pointis, who were said to have made a booty of £9,000,000. It was now considered the principal, the most populous, and the best fortified city in Spanish America. Its garrison numbered 4,000 Spaniards, besides negroes and Indians, and now it was further strengthened by the Spanish squadron under Don Blas de Lezo.

* De Lapeyrouse Bonfile, vol. ii., p. 246, gives the names. There were also five frigates.

† Campbell (*Lives of the Admirals*, vol. iv., p. 275. Ed. 1813) is precisely under the same error.

‡ Entick, p. 754.

The approach to the town from the sea was naturally protected by shallow water, which extended nearly three miles out, and the want of shelter of any kind from northerly or westerly winds, put a regular attack from that side almost out of the question.

The real objective in an attack on Cartagena was the port, which, again, was to be got at only by way of the narrow passage of Boca Chica, eight miles to the southward of the town. This entrance was defended on its northern shore, called Tierra Bomba, by a regular square fort called St. Louis with four bastions, strong and well-built, and mounting 82 guns and 3 mortars. The central work was strengthened by several redoubts: St. Philip with 7 guns, St. Jago with 15 guns, and a small fort of 4 guns called the Battery de Chamba. On the south side of the entrance was a fascine battery of 15 guns called the Barradera, and in a small bay at the back of that another battery of 4 guns; and facing the entrance on a small flat island stood Fort St. Joseph, of 21 guns. From this to the north shore a boom and cables were carried, and behind the boom 3 66-gun and 1 70-gun ships were moored with their broadsides covering the entrance.

Beyond this passage lay the great lake or harbour of Cartagena, land-locked in all its southern part, and capable of sheltering a vast navy. About midway towards the town it grew narrower, and about three miles south of the town there was a second narrow passage formed by two peninsulas, the one to the west being crowned by a fort mounting 59 guns, called Castillo Grande, and the one to the east bearing a horse-shoe battery of 12 guns, called Mancinilla. There was a shoal between these two points, and ships had been sunk on each side to block the passage against the British. The town of Cartagena itself, spreading over two low sandy islands, was surrounded by natural defences of shoal water and swamps, and was artificially strengthened by works mounting no less than 900 guns. West of the city, and about a mile from the gate called Himani, and on a hill fifty or sixty feet high, was the Castle of St. Lazar, which was a fort about fifty feet square, with three demi-bastions, having guns mounted, two on each face, one on each flank, and three on each curtain. The fort itself was not so strong, but it was in a commanding position, and covered the approach to the city on that side. There was, however, a height about 400 yards from it, which entirely commanded it.*

Vernon had already, as we have seen, some knowledge of the

* Entick, p. 754 (note).—The place chosen for the beginning of the attack and the landing was that which de Pointis had successfully used forty-four years before.

nature of the work before him. He had also sent in advance of the fleet a line of battle-ship, a frigate, and a sloop, to reconnoitre and sound. From the captains of these ships, and particularly from Captain Knowles of the *Weymouth*, who had hitherto acted as engineer to Vernon's operations, he learnt that the most suitable commencement of the attack would be to possess himself of the forts on the north side of Boca Chica, and that there was anchorage almost within musket shot of the redoubts St. Philip and St. Jago without opening the guns of the great fort of St. Louis or Boca Chica.

The fleet being at this time organized in three divisions, Ogle commanding the van, Vernon the centre, and Commodore Lestock the rear, it was determined in council that Ogle should take his division down to Boca Chica, and should anchor three line-of-battle ships to batter forts St. Philip and St. Jago while two more attacked the smaller work of Chamba.

On the 9th of March, Sir Chaloner Ogle, having with him General Wentworth, who had succeeded to the command of the troops on the death of Lord Cathcart, proceeded to the southward, and having placed the five ships in their appointed stations, got the fire of the batteries so completely under, that 500 grenadiers being landed, under Lieut.-Col. Cochrane, were in possession of the three redoubts by 8 o'clock in the morning, and there was nothing to prevent such further disembarkation of troops as might be decided on. This success had been achieved with a loss of only six men directly, but indirectly it was heavier.

One of the ships, the *Shrewsbury*, had had her cable cut by a shot, and not having a second anchor immediately ready, she drifted opposite the Boca Chica, and was for the whole of the day engaged with nearly all the batteries, thereby suffering great and useless damage, and a loss of sixty men in killed and wounded.

Towards night on the 9th, the bomb-vessels got into place, and began to play on Fort St. Louis; and during the next day the two regiments of foot and the six regiments of marines were all landed without opposition, and with and after them were carried great stores of artillery, ammunition, and camp equipage. On the 13th, a mortar-battery which had been erected began to play on Fort St. Louis, and by the 14th all the stores had been landed, as well as twelve 24-pounders from the ships' armaments.

From the moment the troops landed they seem to have become sickly, and to have either lost heart or energy. Vernon complained to Wentworth of the dilatoriness of the military opera-

tions, and Wentworth in reply complained of want of support from his officers. The navy seems to have omitted nothing that could convenience the soldiers, and the force landed was certainly superabundant for the mere duty of reducing the remaining works on the Tierra Bomba side of Boca Chica. The fascine battery on the south side of the passage proving to be a great annoyance to the military camps, Vernon sent a landing-party of seamen which, on the night of the 19th of March stormed it, spiked the guns, and tore up the platforms, sustaining very little loss, and returning to the ships with six wounded prisoners.

The main object of the army was the erection of a battery, under cover of a wood, to reduce Fort St. Louis to a condition suitable for the troops to attack, and it was hoped that this might be so speedily set in order as to enable the engineers to transfer their skill to the south side of the passage and to capture all the forts on both sides without putting the ships to the hazard of attacking a passage so formidably covered by guns. But the 21st of March arrived without the completion of the battery on the north side alone, though 500 seamen had been lent for that purpose.

The vice-admiral began to grow seriously uneasy at the delay. The season was drawing on. The anchorage was so exposed and so bad, that the rocks were continually cutting the ships' cables. There was a growing danger of interruption from seaward, as Vernon had intercepted intelligence informing him that de Torres had arrived at Havannah with the Ferrol fleet, and was expecting to be joined by a French fleet under Rochefeuille. It became plain that if the business was to be done at all, the navy would have to take it in hand promptly, and finish it.

Accordingly, on the 23rd, Commodore Lestock conducted an attack upon the northern forts and the ships supplementing them, with three 80-gun and three 70-gun ships. They were terribly shattered and obliged ultimately to draw off, but other ships took their places, and the seamen landing, carried those of the batteries on the south side which had been in part restored. Meanwhile the land forces had opened fire from their long delayed battery on the 22nd, and by the 24th, a practicable breach was effected in the ramparts of Fort St. Louis. It was arranged to storm it on the evening of the 25th, and by way of diversion, Vernon sent Captain Knowles with a large landing-party to take the fort, as it were, in flank.

The fortress fell so easily to Wentworth's stormers, that Knowles

pushed on with the boats to Fort St. Joseph, which he took with hardly any loss, the garrison flying precipitately on his approach. It was the same with the ships. Arrangements had been made for scuttling them in the event of a reverse, but such was the hurry and confusion consequent on Knowles' approach, that one of them, the *Gallicia*, fell into his hands intact, with her captain and 60 men. A complete conquest of the passage was thus made, and nothing barred the way but the boom and the *Gallicia*, which Knowles speedily removed, and the next day, March 26th, the Admiral and several of the ships not only passed into the harbour, but advanced several miles towards the town. On the 26th, some of the ships directed to do so had anchored just out of gunshot of Castillo Grande.

By the 30th the whole fleet was inside, and it must have appeared to most of those engaged that a success as splendid as that of Porto Bello was already achieved. But certain points might have been taken into consideration. It is apparent to us now, and after the event, that a much larger force than necessary had been landed on Tierra Bomba; that force had already suffered a loss of 400 by sickness and casualties. It had to be re-embarked before anything farther could be done, and when re-embarked it would carry the seeds of sickness with it. To complete the success, it was probably necessary to push the garrison of Cartagena at once, and before they had time to recover themselves, but the troops were not again ready to land until the morning of the 5th of April, and then not all of them.

But pending their readiness, the ships had been pushing up and on. The fort on Mancinilla (Manzanilla) being weak, was destroyed by the Spaniards themselves on the nearer approach of the squadron, and on the 30th Sir Chaloner Ogle with some of the ships of his division having anchored close to Castillo Grande, Captain Knowles reconnoitring in the evening, came to the conclusion that the enemy was evacuating that fort also. Next morning it was discovered that they had sunk the two remaining line-of-battle ships of the squadron in the channel, and had abandoned the fort, which was immediately taken possession of by the British. There was nothing now between the navy and the town but the sunken ships, and the shallow water beyond them.*

Some of the bomb-vessels were now brought up, and on April 2nd began to play on the town, and a few of the guns of Castillo

* No mention is made in my accounts, of Fort Pastelillo, which appears in the plan of 1854.

Grande were likewise utilized in that direction. By the evening a passage was made through the sunken wrecks, and three fire-ships passed through it to occupy stations for covering the landing of the troops when it should take place. On the 3rd, the *Weymouth*, Captain Knowles' 60-gun ship, passed through the western channel and came under the fire of the town without material damage to herself, and next night she passed round the shoal to a secure position in the eastern part of the harbour, where were now assembled other covering ships which swept the surrounding country with their guns, and prepared for the landing of the troops from the transports which were beginning to warp in.

Even now, and notwithstanding the delay, the fall of Cartagena could not but have seemed certain, to both soldiers and sailors. The troops began to land early on the morning of the 5th, at a place about two miles from St. Lazar,* and though the whole of the garrison was drawn out of the town to oppose them, it was broken up into small parties, and Wentworth's advance was little retarded.

What actually followed seems almost inexplicable. The Admiral, daring to rashness as we have seen him up to this moment, and trying everything before he pronounced that it could not be done, suddenly, and without warrant, came to the conclusion that there was not water to allow his ships to close up to the town and fire on it. As a fact, we now know that there was 7 fathoms water close up to where Fort Pastelillo is now shown on the plan, that is, within 1,000 yards of the town. He therefore made no advance after landing the troops.

General Wentworth, on his part, had secured the convent surmounting the highest point, and knew or ought to have known, for he saw it with his own eyes, that Fort St. Lazar was not very strong, and was commanded from higher ground close to the eastward of it. Instead of pushing on to what, after his experience, he ought to have supposed was an easy conquest, he not only made no attempt either upon the fort, or upon the heights commanding the fort, but set about making an encampment, and lay for three nights waiting for tents and baggage.

Between the Admiral, who seemed suddenly to be morally paralyzed, and the General, who had all the time seemed to think that if he kept his mouth open long enough the cherries would certainly drop into it, there arose mutual recriminations.

* Very probably near the spot where the house stands which is marked on the plan, if that be not the identical house which is spoken of in the accounts of the landing.

The General complained that the fleet lay idle, while his troops were harassed and diminished by hard duty and distemper. The Admiral affirmed that his ships could not lie near enough to batter the town of Cartagena, and upbraided the General with want of activity and resolution to attack the fort of St. Lazar, which commanded the town, and might be taken by scalade. Wentworth, stimulated by these reproaches, resolved to try the experiment. His forces marched up to the attack, but the guides being slain, they mistook their route and advanced to the strongest part of the fortification, where they were, moreover, exposed to the fire of the town. Colonel Grant, who commanded the grenadiers, was mortally wounded; the scaling ladders were found too short; the officers were perplexed for want of orders and directions, yet the soldiers sustained a severe fight for several hours with surprising firmness, but at length retreated in good order, leaving above 600 men killed or wounded on the spot.*

This check was one that the troops could not recover; sickness had already shown itself amongst them to such an extent that 500 men were either dead or incapable, and in view of all the conditions, a council of war of the land officers decided that the troops must be re-embarked with all speed. This was done on the 15th. when 3,200, of the 5,000 landed, returned to their ships, and further operations against Cartagena were abandoned.

Although in this undertaking all the forts accessible by sea which defended the approaches to Cartagena were destroyed, and with them a squadron of five sail of the line, yet the attack was a failure and not a success. But when we come to the question of why it was a failure, it is not so easily answered. It would seem clear that it was an error to land so great a force as was employed, chiefly in looking on, at the fall of the forts on Tierra Bomba. It seems at the same time strange that part of the force landed on the north side was not landed on the south side, or, at any rate, transferred to the south side when its weakness was discovered. But then the subsequent success in forcing the passage of the Boca Chica, and all the operations up to the moment of the second landing of the troops might be held to have condoned any errors at the beginning. Why it came to pass that after the second landing, and when a vigorous advance in any form, and in almost any direction, would have succeeded, there should have been no vigorous advance in any direction, passes knowledge. The ultimate failure of the attack on Cartagena is not explained, and that is all we can say about it.

But it may be remarked of the forcing of the Boca Chica that it resembled in many respects the attack at Vigo. The difference in principle is that the fleet was unsheltered, and that the landing was in the face of the batteries. Why it should have been so is not explained, though perhaps a single glance at the locality

* Hervey, vol. iv., p. 148.

might even now explain it. With the great land force at disposal, it seems strange that it should not have been employed both north and south of the passage simultaneously, and there does not now seem any reason why one party should not have been landed well to the south, and another well to the north of the forts to be taken, and then that the ships should not have co-operated in the usual way. The loss and damage to the ships in engaging the batteries does not seem to have been met by commensurate advantages. We must observe that the hazard to which the ships were put was not deliberate, but was forced on Vernon by the threat of the Spanish force a thousand miles off at Havannah.

The state of the ships was such, and his instructions so ordered it, that Vernon was obliged to send several of them home; and then, with a reduced fleet and a body of troops reduced from its original strength of 12,000 to about 3,000 only, it did not seem that there could be any continuance of territorial attacks. Vernon, however, was of a different opinion, and considered that by dividing his fleet he might have sufficient force to watch and guard against the Spanish fleet at Havannah, and also to support a land attack.

The place aimed at was St. Jago de Cuba, a town and close harbour on the S.E. coast of the island, and then chiefly celebrated as the rendezvous of the privateers. Entrance to the port was difficult, not only because of its narrowness, but also because of certain eddy winds, which caught ships at a certain part of the approach and necessitated very special appliances if the ship was to advance. For these reasons, and not so much because of any real strength of the place in the way of fortification and garrison, it was determined to push the usual principle of successful attack to its extreme limit as it were, and to take possession of a neighbouring port easy of access and entirely undefended, and to operate upon St. Jago de Cuba overland from that sea base. This port was Walthenam Bay (now Guantanamo), 40 miles to the westward of St. Jago de Cuba, an inlet noted for its convenience, and as a shelter during the hurricane months now approaching. It appears to have been entirely unoccupied by the Spaniards, and not defended in any way, and Vernon sailed into it with his whole force on the 13th July 1741. This consisted of 61 sail in all, and comprised 9 sail of the line and 12 frigates and smaller vessels,*

* He had sent home 11 sail of the line under Lestock, and had left 9 sail of the line at Port Royal, 6 to protect Kingston, and 3 to follow him when they were ready.

with transports containing the 3,000 men remaining of the army, and 1,000 negro troops which had been raised in Jamaica. Three days were spent in getting the flotilla up the harbour, collecting information, and in placing six sail of the line across the harbour to secure it against any attack from the sea, and in arranging Sir Chaloner Ogle's division and the frigates to block the entrance to St. Jago, and to watch the motions of the Spanish fleet at Havannah.* Then on July 20th 1741, a council of war decided to begin the reduction of the Island of Cuba by the proposed attack overland upon St. Jago.

The landing was quickly and easily effected, and advanced posts were occupied on the road to St. Jago, which had been, on good evidence, considered not only practicable but convenient for the march.

On the 28th of July this advanced guard had reached the village of Elleguava with scarcely a sign of opposing forces. Major Dunster, who was conducting the advance, then returned to a station which he had left occupied, and now, on the 2nd August, found to be held by some 500 men under Colonel Cochrane. It is unaccountable that at this juncture, when there seems on the record nothing whatever to have prevented the advance and completion of the design, Colonel Cochrane should have taken his troops back to the main camp under Wentworth, and that on the 9th of August a council of war of the land officers should have decided "that they could not march any body of their troops farther into the country without exposing them to certain ruin; and that they were firmly of opinion that their advancing with the army to St. Jago in their present circumstances was impracticable."† As the decision was in the hands of the land officers, the Admiral and the naval officers, whatever they may have thought, and however they may have chafed at this second failure of the troops to complete what had been well begun, could not controvert it. But Vernon was not yet prepared to give up all hopes, and on the 4th September, leaving the troops in camp, he proceeded himself by

* "As the security of the army and all the transports depended upon the squadron being in a condition to defend the harbour from any surprise on them, which was to be dreaded, as the Spaniards had so strong a force so near to them at the Havannah, Vice-Admiral Vernon, therefore, took the safest and most prudent precautions for their security, by forming the best dispositions with his six capital ships in a line, to defend the entrance to Cumberland Harbour" (so re-named by Vernon), "having dispatched the other part of the squadron to block up the harbour of St. Jago, and to watch the motions of the Spanish Admiral at the Havannah."—Entick, p. 761.

† Entick, p. 762.

sea to St. Jago, in order to ascertain if it were possible to force the entrance with his ships. He ascertained, however, that it was a matter of warping in one ship at a time, and only with considerable difficulty, under the immediate fire of the batteries. He also found that there was neither anchorage nor landing-place near the mouth of the harbour. Reluctantly he had to admit that approach in this way was hopeless. Nevertheless, he seems to have been so pressing upon General Wentworth to keep the hold they had got on Cuba, that it was not till November that he consented to re-embark the troops, and it was not till the 28th of that month that the expedition quitted the ambitiously new-named Cumberland Bay.

In looking back, we can see that Vernon, so far from deserving the slurs that were cast upon his name for apparent want of activity and for over-caution, was really exceedingly rash in his operations against Cuba, if he supposed it possible that de Torres, with his fleet from Havanna, was capable of taking the advantage offered to him. For while de Torres presumably had a compact force of 12 sail of the line in one body, Vernon's force was divided into three sections not exceeding 6 sail of the line each. He therefore—if he ran any risks at all from Spanish movements—ran the greatest risk of being destroyed piecemeal by de Torres falling suddenly on Ogle at sea, defeating him by overwhelming superiority of numbers, and then blocking up Vernon in Cumberland Bay, while the military forces of Cuba gathered round him on the land side, and cut off his communication with the outer world entirely. It seems most probable that the Admiral and his naval surroundings had by this time come to the conclusion that there was in no case much to be feared from the activity of the Spanish Admiral. On the face of the records I am using, the whole blame of these failures must rest on the shoulders of General Wentworth, though how much of this officer's shortcomings were due to the effect on his temper of Vernon's impetuosity and probably dictatorial manner, may be open to argument. Certainly the "conditions" under which these failures took place were more personal than material.*

* Vernon asked to be recalled on his return to Jamaica, "under his daily prayers for a deliverance from a gentleman whose opinions he had long experienced to be more changeable than the moon, though he had endeavoured, agreeable to his orders, to maintain the most civil correspondence in his power with General Wentworth." Campbell, vol. iv., p. 490.

(To be continued.)

Our Critics in Germany.*



THE Berlin service periodical quoted below contains a critical disquisition on our military institutions which is worth examination by those interested in national defence. Leading off with the somewhat trite remark, which is, nevertheless, often ignored in practice, viz. that the political influence of States is proportionate to the excellence and strength of their military institutions, the writer lays down that, up to the end of the last century, England performed her part in continental warfare by the payment of subsidies to her allies, although she never omitted, at the same time, to employ her small but efficient army for the furtherance of their common interests. If a Frederick was unable to dispense with the subsidies of Albion, on the other hand it was German regiments which in a great measure fought her battles. But times have changed, and in future England's imperial position must depend not so much upon her financial resources as upon her own military strength. This strength, potentially vast, must be made immediately available, in accordance with the requirements of the age, rapid mobilization and concentration of forces to resist attacks which will be made with little warning. "Organizations which have been matured beforehand will alone be capable of performing this." The opinion advanced by the *Times* newspaper on the occasion of the Emperor William's first visit to Spithead, viz. that the British army should stand in the same relation to the navy as the German fleet occupies with regard to the military forces of the Empire, is quoted with approval. Nevertheless, a strong, well-organized, and easily mobilized army is absolutely indispensable to the safety of Great Britain. Briefly reviewing the actual condition of our military forces, the critic notes the disadvantages which the voluntary system of enlistment brings in

* *Jahrbücher für die Deutsche Armee und Marine.* Berlin, July 1890. *Internationale Revue über die Gesamten Armeen und Flotten.* Rathenow, July 1890.

its train: the lowest strata of the people fill the ranks instead of the more able-bodied and educated; the numbers of the army are necessarily too small, and the masses of the population are utterly without training in arms. In the hour of danger the people of England cannot be summoned to arms in mass for the defence of their hearths and homes, but only a small fraction of them.

Thus it has been that, owing to a sense of this weakness, the foreign policy of Great Britain has been marked by a certain timidity and reserve in all difficulties which the sword might possibly be called upon to unravel. Still, in recent years the army has taken a step towards the ultimate goal of "universal service"; it has become a *national army*. This was not the case formerly. Wellington's armies contained numerous German battalions and squadrons, and even as late as the Crimean War a German Legion was enrolled. There are no foreigners in its ranks at the present moment; and the Irish element has, happily perhaps, in view of certain contingencies, materially shrunk in proportions. But the waste in the ranks is with difficulty replenished by the available supply of recruits, and the corporeal efficiency of such as join has, of late years, shown a marked retrograde tendency. The standard of height and chest measurement has been considerably reduced. The cost of the voluntary system is enormous, being almost equal to the military budget of Germany, who keeps on foot more than double the number of peace effectives.

The discipline of the British army is severe, but in spite of the defects inherent in the recruiting system, the behaviour of the British soldier in the field is unsurpassed, and discipline has stood every strain it has been called upon to bear. This is due to the excellent qualities of the officers and the eminently martial instincts of the nation. The British infantry in 1815 was considered, even by Napoleon's marshals, as the best in Europe; now, however, it can hardly lay claim to so high an appraisal of its qualities. Owing to the means of recruitment, the ranks no more present to view battered and sinewy forms like the "Lions of Waterloo." The sneers, however, which are sometimes levelled at its marching powers are but little justified. The Afghan war has proved this. The march of Sir Frederick Roberts from Kabul to Kandahar was one of the finest martial performances which military annals can adduce. The criticisms we read on the training of the British soldier are also ill founded. The old regulations were based, it is true, on the tactics of the foregoing century; but in January

1889 a new "Infantry Drill" appeared, which, though it retained many obsolete forms, on the whole satisfied the requirements of the day. We are assured that the army is satisfied with this compilation. The individual training of the British soldier is prejudicially influenced by the circumstance that recruits are continually flowing in during the whole course of the year. Thus the battalion can never drill with its full peace establishment, and companies have to be broken up on the parade ground for the occasion. The higher grades of officers are little accustomed to the handling of great masses; autumn manœuvres on a grand scale having been discontinued. But, in spite of all defects, the English infantry must be regarded as a solid, well-armed and reliable body of troops.

With regard to the cavalry, its marching powers have also been called in question, though very unreasonably. In the last Afghan war the English squadrons carried out the service of strategic reconnaissance with remarkable ability, and manifested extraordinary powers of marching. Their riding—thanks to length of service with the colours—is first-rate. Only lately, however, has the practice of manœuvring in great masses commenced. The weakest point is lack of horses; more than one third its strength is unmounted! A land so rich in horses as England has to buy a portion of its remounts abroad! There are no Government breeding establishments. A portion of the animals are unfit for service, being either too old or too young.

The Artillery, especially the Horse Artillery, is the boast of the English. Its training and horsing is extremely good, but the chief thing was long in a deplorable state. The newly-introduced steel 12-pounder is inferior to no gun in initial velocity and lightness, but the re-armament makes but slow progress. The defects of the coast and naval guns are well known. Even English officers are to be found who assert that their heavy ordnance is more dangerous to the gun detachments than to the enemy.

The Volunteers, declares the writer, display much zeal and earnestness, and though they may be superior in quality to national or municipal Guards, cannot by any means be placed in the same category as the regular infantry of other Powers. It must likewise be remembered that, granting that they are animated by the best spirit, modern invasions fall like thunderbolts from the clouds, and danger will be upon them before mobilization is complete. A serious danger would be the total absence of cavalry; but this difficulty, we surmise, would be attenuated by the close and intersected nature of the soil in

England, and the quantity of cover which exists. The Volunteer artillery cannot be looked upon as a really efficient arm. On their "technical" troops, Engineers and so forth, he bestows the somewhat dubious compliment of saying that, though useful, their services would be all the more so the farther they were from the enemy.

Great progress has of late been made in the mobilization scheme which has been worked out for welding the various forces into one "harmonious whole" in case of emergency or invasion. The English are more plentifully supplied with officers than even the German army. There are 14,000 retired on pension, a large percentage of whom would be found excellent stuff for officering newly raised levies and reserves. The institution of reserves was one of the greatest achievements of Cardwell's and Childers' reorganization schemes, and has been a marked success. In 1882 the men answered readily to the summons when called upon to mobilize for service in Egypt. They bring the line battalions to a war footing without loss of time, constituting a weighty increase to the country's powers of attack. The supply of recruits to keep the ranks at their full complement and replace casualties during a campaign is not, however, well assured.

Equipment and transport are still the sensitive points of the mobilization scheme. Too much centralization prevails, as in the case of the French in 1870, and any plan of the kind, however well prepared, may be wrecked by this defect. Ammunition columns are non-existent, and a not very happy substitute has been hit upon, that of converting a portion of the field batteries, which were already too few, to this employment. In spite of the industry of recent years, much remains to be done before organization and mobilization can be pronounced to be in a really efficient state. English military authorities of high standing declare that, owing to excessive centralization, the "Horse Guard's House" (*sic*) would be overwhelmed with work if mobilization were to take place. The allocation of stores close to the troops which are to be equipped is the only guarantee for a smooth and rapid completion of the work, and that the battalion march out fit for the campaign. If the Reserve can take the field in four days' time why should not the Militia, which actually takes fourteen? The weaker the interior organization of the auxiliary forces, the more readily should they be in a condition to take the field. Thus only could they hope to overwhelm with superior forces the more highly trained battalions of an invader without

giving him time to establish a grip upon the soil ; thus only can the bonds of discipline be tightened, and a degree of solidity under arms attained before the final collision occurs. With delay, the enemy may have landed before the Militia can be embodied, or in an offensive war, the regular army may be detained because the auxiliary forces are not ready to take its place. It is wonderful, exclaims the critic, how little popular opinion in England busies itself with military affairs ; especially wonderful when we take into consideration the disturbed state of Europe and the exposure of India to attack. This is mainly due to the unique geographical situation of the kingdom ; it has nevertheless been subjugated, five times (usually, let us remind the friendly critic, with the connivance of a faction in the State). Yet the panics of 1804 and 1859 arose, and British officers are constantly exhorting their countrymen that a French invasion is quite feasible. If England had no colonial possessions she would still require a great and well organized army to secure immunity from aggression.

Notwithstanding the above reflections, the review lays emphasis on the natural advantages with which our island is endowed for purposes of defence. The south coast is rocky, and the sea which washes it rough ; Plymouth and Portsmouth have approaches which are easily barred to navigation ; numerous islands afford the British fleet secure pivots whence a French fleet may be watched. Again, from the South Foreland to Berwick, the east coast is beset with shoals, the mouths of the rivers alone affording access to the interior. The western coast is not more favourable to hostile designs, and the estuary of the Severn, owing to the enormous power of the tidal wave and to shifting sandbanks, is dangerous. Scotland is too far distant from the heart of the kingdom to serve the purpose of a landing in force, and an invasion of Ireland would act merely as a diversion accessory to the main attack on the capital and seat of Government.

Under special circumstances, to attempt the invasion of England would not be absolutely hopeless. Accidents, such as the absence of the fleet, or a coalition of the maritime Powers, might occur ; still less is the security of India outside the realms of dubiety. On account of her wide-spread interests (*e.g.* Egypt), Great Britain cannot neglect the contingency of being brought into collision with a military Power of the first rank, whose centre of gravity lies on land and not at sea. Such a foe could only be crushed on land, and victory could only be attained by offensive operations waged by an army supported by a fleet, certainly not by a fleet

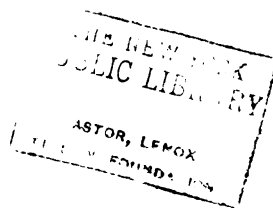
alone. Now England is not sufficiently armed for such a conflict. The defence of the country could not be entrusted wholly to the auxiliary forces. Sixty thousand regulars would have to be subtracted from her available field armies for home defence, leaving but 78,000 for offensive operations abroad.

The administrative defects of the British army may be removed, but how about its wholly insufficient numbers? It already costs so much that no considerable increase can be looked for under the existing system of recruitment. Critics therefore assert that the introduction of universal military service has become necessary and inevitable. The "powers that be" in England are, however, not yet reconciled or favourable to this portentous forward bound. Nevertheless, concludes the reviewer, a substantial reform may be instituted without alteration of the laws, and based upon lines which already exist. Parliament, abolishing enlistment in the militia, could again bring the ballot into operation. Service in this force extending to the sixtieth year of life, the officers and men retiring from the regulars in the flower of their age would be swept into the net, amounting to about 30,000 per annum. This, it is calculated, would provide a national army of 200,000 seasoned troops, at all times ready to turn out in defence of the kingdom. These would form a solid nucleus, around which the auxiliary forces might crystallize and harden; meantime, the regulars would be liberated for service abroad. In the next place, Sir F. Roberts' proposal for the separation of the Indian Army from the Imperial forces is extolled by the German critic; the terms of enlistment for the first would be twelve years, for the latter three years, with a correspondingly lengthened period in the Reserve; this, in nine years time, would contain 300,000 men. The writer feels confident that future European conflicts on a large scale will compel us to adopt some course such as he advocates. Recent events, let us add for our part, have led English soldiers to doubt the sufficiency of a three years' term with the colours to ensure the discipline of a voluntarily enlisted army. It may serve indeed for one which includes in its ranks the pick of the population.

The *Internationale Revue über die Gesammten Armeen und Flotten* contains an article on the historical relations between England and Portugal. Their destinies have for centuries been interwoven, and, the reviewer opines, if the good and the bad which the Lusitanian State has received at the hands of her maritime patron were to be honestly weighed in the balance,



THE FIRE ALARM IN A GERMAN TOWN.



the evil would show a marked preponderance. John of Gaunt, Duke of Lancaster, drew the Portuguese king Ferdinand into an alliance against Henry of Castile in prosecuting his designs on the throne of that country. The consequence was the sack of Lisbon and the destruction of the Portuguese fleet by the Spaniards. Three thousand English were then despatched to the assistance of the capital, but the inhabitants, infuriated by their tyranny and extortions, exacted many a sanguinary reprisal. On the renunciation of his claims by the English prince, his countrymen returned home on board Castilian ships. From 1500 to 1520 was the zenith of Portugal's greatness. Then it was that her discoveries and colonial settlements were effected by her great navigators, Vasco De Gama and the rest. But the little kingdom overtaxed its resources, and was as much embarrassed to defend its vast possessions as Great Britain appears to be at the present juncture. The pick of the nation was swept off by disease and the sword; agriculture and industrial undertakings were neglected in the mother country, where, production being at a standstill, the influx of the precious metals merely enhanced the prices of the necessaries of life. The end of the century witnessed the commencement of Portugal's decline, the loss of many colonies, King Sebastian's defeat and death in Morocco, and her conquest by Philip of Spain. In this period of subjection occurred the expedition of the Armada against England, and after its destruction French, Dutch, and English corsairs pounced upon Spanish and Portuguese trade and colonies as a defenceless prey. In 1640 a revolution placed the House of Braganza on the throne, and Portugal retrieved her independence after a long struggle, with the aid of France principally, Richelieu and Mazarin being at the helm of the State; but the Spaniards had in the meantime appropriated her ships and ordnance. In 1703 the Methuen treaty was negotiated with England, Portugal conceding important immunities in respect of the importation of English goods, and receiving equivalent advantages for her trade in wines. Henceforth she was to be nothing but an emporium for the storage of English merchandize, Portuguese skill and energy being diverted to the ample fields of distant Brazil. Under John V. (1706-1750) the navy was ruined by a terrible hurricane, which sank one hundred ships in Lisbon Roads, and thereafter she relinquished the attempt to resuscitate her naval resources. The Algerian corsairs landed on her coast, levying contributions at will. In 1754 her great minister Pombal declared that Portugal produced scarcely anything for her own

support, three-fourths of her wants being supplied by England, adding that the whole of the gold which arrived from Brazil passed at once into the hands of the English. At the time of Junot's invasion, John, the Prince Regent, was induced by the threats of Sir Sydney Smith to abandon Lisbon, carrying in his wake the entire Portuguese fleet and mercantile marine over to Brazil. Only one of these, a line-of-battle ship, came back with him to Portugal in 1820. After the peace of 1814, Beresford maintained an exorbitant standing army, to the utter impoverishment of the country which had staked its existence on the recent struggle. Revolution broke out, the King returned from Brazil, but succumbed to the counter revolution headed by his son Miguel. He sought refuge on board the British fleet, and in 1833 his adherents, supported by Sir Charles Napier, defeated the rebels off Cape St. Vincent. Dom Miguel abdicated his pretensions, and when, in 1847, he renewed them, the English captured his squadrons sailing from Oporto to Lisbon without difficulty. The history of Portugal demonstrates in the clearest light that a colonial Power cannot maintain its pretensions without a navy of corresponding strength. A few English cruisers have sufficed to coerce Portugal on the Zambesi, notwithstanding the seemingly correct behaviour of Major Pinto in the affair with the Makololos last autumn. This was because Portugal's fleet is utterly unseaworthy and insufficient in numbers. The movements which convulse the Portuguese people are the spasms felt by a fish dangling from the hook. They indulge in hostile demonstrations against England, but their rulers well know that a rupture with that country would signify the commercial ruin of Portugal, while to the foe it would not be of much consequence. She sends to these islands 80 per cent. of her entire export trade, but takes only 1 per cent. of ours in return; England, in fact, keeps Portugal going, who must therefore swallow her indignation and continue our hanger-on as before. No other nation can supply the loss of our custom. Spain is too weak to protect her, and France would covertly stir up the Republican faction. Badge of servitude, the English sovereign is the current gold coin of the realm, small change only being struck in the country. Portugal must bide her time, gradually creating a navy of a strength corresponding to her necessities.

We reproduce these strictures on our relations to Portugal without comment. English readers tolerably versed in history will readily supply the deficiency without assistance.

The same *Revue* also contains an article entitled "The Armed

Forces of England in the Colonies of Europe, Asia, Australia, and America." Beginning with Australia, each colony, strange to relate, possesses its own separate little army; and what astonishes the visitor most is the silly jealousy which is displayed by each settlement in all things, not excluding even military affairs. These particularist tendencies will be swept away in time, and a united army, proportioned to the commanding position which Australia is assuming in the universe, will be the inevitable result. At present the general character of the force is excellent. Education, good will, energy, and even enthusiasm, dwell among them. Both officers and men do their utmost to gain the knowledge and efficiency which is required of them. The physique of the men is good, in height a little surpassing the infantry and cavalry of the line of Great Britain; but they are not so deep-chested and heavy. Born Australians, though strong and tough, do not as a rule possess the "John Bull" constitution attributed to Britons. They are about on a par as to military efficiency with the best of our Volunteer Corps. Space does not permit us to pursue this interesting theme, which we recommend to our readers' attention.

THE EDITOR.



British Battle-fields in Portugal.

By MAJOR-GENERAL SIR E. F. DU CANE, K.C.B.



EARLY eighty years have passed since the Peninsular War commenced by the landing of Sir Arthur Wellesley on the 4th August 1808, with a force of 12,300 men and 18 guns, in Mondego Bay, and though there have been many wars since then, large and small, none of them, not even excepting the great struggle with Russia in 1854-55, excite the same interest in us as the scenes of campaigns in which we stemmed and reversed the tide of Napoleon's victorious career, after it had flooded all Europe, cleared the French out of Portugal and Spain, carried the war into France herself, and finally overthrew the great conqueror in the crowning victory of Waterloo.

Military knowledge is so much more widely spread than formerly, and military study so much more encouraged, that it is probable the scenes of these great events, which furnish examples of all the great principles of the Art of War, would be visited much more commonly than they are, were it not that the difficulty and expense of travelling in Spain and Portugal interpose such serious obstacles to doing so. The railway arrangements do not give much help or encouragement to those who desire to study these interesting localities, even when they lie near a line of railway. There is generally one (slow) quick train, making about fourteen miles an hour, and one (awfully slow) slow train in the twenty-four hours. They have a peculiar faculty of bringing one to one's journey's end fatigued with a night's travelling, which is not a good preparation for a day's hard work roaming over the scene of action. For example, to visit Badajoz on the road from Madrid to Lisbon, it is necessary to leave Madrid at an early hour, travel through the whole day and until 3.40 on the following morning, unless the train is late, which it usually is, from one to three hours, and having suffered one broken night, to come to the interesting labour which forms the

object of the visit with half one's vigour exhausted, then to take up the thread of our journey on the following night by rising at half-past two in the morning, in order to be sure to catch the same train to Lisbon (for it is possible it may be in time), to lumber along wearily in an omnibus to the distant station, and probably to wait drearily at the station one to three hours if the train is late, arriving finally at Lisbon after a journey of ten or twelve hours, covering 174 miles at a quarter-past two in the day. To go through all this several times in the course of an autumn tour is somewhat hard work, and as it evidently deters many people from undertaking it, a few notes of visits to these old battle-fields, the scenes of so much glory to the British arms, may not be unacceptable.

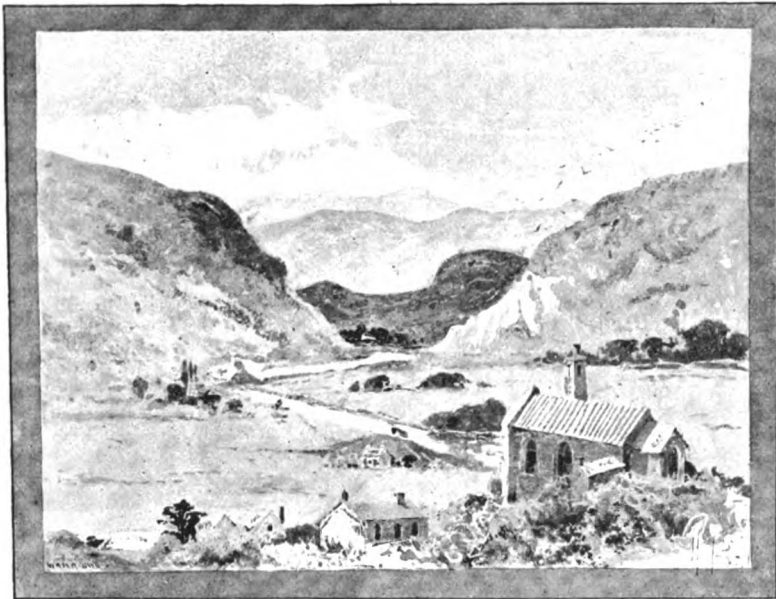
And here we must warn anybody who imagines that the Spaniards and Portuguese must have vivid feelings of gratitude for our efforts in liberating their countries, and of admiration for the prowess of our soldiers, that he must not expect anything of the kind to be exhibited.

La Rochefoucauld truly but cynically observes that nobody dislikes you so much as the person who is indebted to you for a favour, and this is at least true of the Spaniards and Portuguese as regards their feelings towards us, which, indeed, they were at no pains to conceal even while we were actually fighting their battles and paying their men. But worse almost than this, they ignore or have forgotten our share in the transaction altogether.

We happened to be in Lisbon on the anniversary of the battle of Busaco, in which Wellington first taught the Portuguese that in conjunction with British troops it was possible for them to beat the French. Accordingly, a glorifying leader appeared in the principal Lisbon newspaper; the fact that one Wellington was in command on that day was duly recorded, but nobody would have gathered from perusing it that there were any British troops engaged. Yet we had thought that, though certain of the Portuguese troops did good service, surely our light division under Craufurd were the heroes of that day. Marshal Bugeaud, in after years referring to the steady, cool bearing of English troops on the field of battle, mentions the battle of Busaco as the occasion on which this quality was so strongly impressed on him by what he saw of the manner in which the English met and repulsed the French attacks.

At Vitoria, again, inquiring the best way to get to the field of battle, we were met with a stare of ignorance and astonishment, "What battle-field?" Certainly there had been a few years ago

some fighting with Carlists at Nanclares, but of any other battle-field they knew nothing until an effort of memory and inquiry recalled the circumstance of the great battle in 1813. Yet here the whole French army was overthrown, the treasure, plunder, and archives of the Court of King Joseph falling into the hands of the victors ; and if the orders of the Marquis of Wellington had been carried out, a surrender which might be compared with that of Sedan would have been the fruit of the victory. At all events, it was speedily followed by the final clearing of all French troops out of Spain, and it might have been supposed that the fact was suffi-



SCENE OF THE BATTLE OF VIMEIRO.

ciently memorable to make the scene of the victory a well-known object of interest to all Spaniards.

In these countries it is not usual for any native to know anything of any place beyond a small limited circuit round his own locality, so that if it is desired to visit any place not exactly in the beaten track, it is necessary to undertake the journey like an exploring expedition, and when time is an object this is sometimes fatal to one's aspirations. For example, we desire to visit Vimeiro, the scene of the first decisive battle of the Peninsular War, the preliminary action of Roliça having been fought with Junot's

advanced guard, whereas at Vimeiro the whole of the French army was engaged and beaten.

Vimeiro, we see by the map, is only about forty-six miles from Lisbon, and about nine from Torres Vedras, a considerable town, yet we could find nobody in Lisbon to tell us how to get there; how long it would take, what sort of road there is (if any), and so on. The excellent landlord of the Braganza Hotel thinks the proprietor of the carriages for hire ought to know, so we interview him and find he is quite in the dark, but thinks a driver in his employ knows something and goes to inquire of the driver, but with no satisfactory result. The guide of the hotel, supposed to have all these matters at his fingers' ends, turns out to be acquainted only with the high or royal road to Leiria and Coimbra. A kindly Scotch gentleman to whom we were referred as having explored these parts, could give no help except what we could derive from the perusal of a Portuguese Railway and Diligence Guide of three years back, which did not mention Vimeiro; and, besides, upset our confidence in what we had gathered from one of the authorities we had been referred to by opining that he was "the greatest liar that ever drew the breath of life." We finally resolved to prosecute our researches at Cintra, as being a place in frequent communication with Torres Vedras, at all events. But the carriage proprietor here was as ignorant as all the rest. He could tell us only that to go from Cintra to Torres, a matter of twenty-six miles, would take seven hours, because his horses must remain two hours at Mafra (half way) to bait, but he thought he knew a driver who knew something of the object of our search. Him, then, we consulted, the sole repository of this simple information, and so arrive at the fact that to Vimeiro there is no carriage road, but that at Torres we can hire horses if we give them plenty of notice beforehand.

After stopping two days, therefore, at charming Cintra, we set out for Torres, and having stopped over two hours at Mafra, and duly wandered over the huge pile, with its 866 empty rooms, perambulated the roof, where it is said that 10,000 men could be manœuvred—and according to some authorities, actually were by Marshal Beresford—inspected the bells and machinery supplied by order of King John V. from Holland in 1730, and heard them play airs from *Traviata* singularly inappropriate for a monastery, noted the kitchen which is so grand that the late king, who appears to have sometimes stopped at his palace of Mafra, found it necessary to bring his own little charcoal *batteries de cuisine*, and his

own pestle and mortar—the only piece of furniture we saw in the whole palace—we arrived at Torres Vedras about sundown.

Mafra it should be observed was, as we shall see, an important point in the strategic scheme of Sir Arthur Wellesley, and became afterwards remarkable in the subsequent operations in Portugal as occupying a position of great consequence in the inner of the two lines of defences which were thrown up to cover Lisbon in 1810. The high road from the north, after passing the outer line at Torres Vedras, arrives at Mafra, and from thence two roads lead to Lisbon. The drive, passing through these lines, affords a good opportunity of observing the disposition of the chain of works by which Massena was debarred the approach to the capital in 1810.

At Torres Vedras we found an important correction to be necessary in the account we had received of our means of getting to Vimeiro. There were no horses to be had. *Cavallos nao ha*, we were informed; but we might have *burros* (donkeys) and a lad to guide us on paying 600 reis, equal to about 2s. 8d. each donkey, for the journey of 19 miles there and back. Early next morning, then, we mounted on our donkeys, following for about an hour the high road to Lourinha and Peniche, and then turning off to the left we passed for another hour through gentle hills covered with pines and with vineyards, in which (October) the vintage was going on, till we reached a barren, sandy hill, at the back of which was the village of Vimeiro, which hill formed the advanced centre of the British position on the 20th and 21st August 1808. Some peasants were working on this hill, who were fully aware of the scene of the action and of the ground occupied, and they pointed out to us a square uncultivated patch with a little trench round it, where they said the dead had been buried. One or two bones we certainly saw, too, on the hill, but whether, like the skull at Blenheim which called forth old Caspar's meditations, they had any connection with the "famous victory" of eighty years ago we would not undertake to say.

No battle would have been fought at Vimeiro if Sir Arthur Wellesley's plans had been followed, nor if Junot had pursued the course which apparently would have been most judicious in the commander of an army numerically inferior, for he would have fought to greater advantage by waiting for his enemy on the strong ground covering Lisbon which afterwards was converted into the lines of Torres Vedras. His reason, no doubt, was to bring on an action before all the British reinforcements, which had been seen off the coast, had disembarked. Sir Arthur Wellesley having on

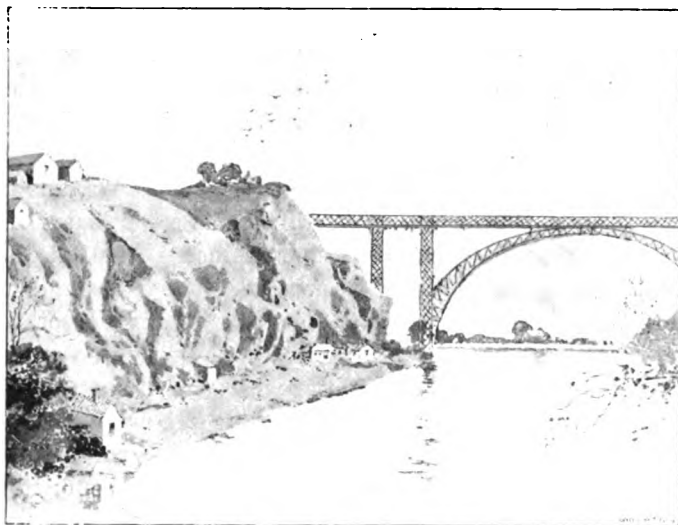
the 17th August beaten at Roliça Laborde, whom Junot had sent out to intercept the force which advanced from Mondego Bay, had diverged from the main road to Torres Vedras and Lisbon, and followed one nearer the coast, in order to keep up his communications with the fleet and to cover the landing of reinforcements which he heard the same night were off the coast. These reinforcements arrived opportunely for the coming engagement. General Anstruther landed his brigade on 19th August at Puy-moyo, at the mouth of the river which runs by Lourinha, and Acland landed his on the night of the 20th at Porto Novo, at the mouth of the Maceira, some two or three miles from Vimiero, in time to take part in the action. Sir John Moore's brigade landed at the same place, but not till the 25th, and had not finished disembarking till the 29th; but the first mentioned reinforcements brought up the British force to 16,000 men and 18 guns, among whom, however, there was but one squadron of British cavalry, of the 20th Dragoons, who had marched from Mondego Bay. Junot, who had 14,000 or 15,000 men, comprising a strong force of cavalry, was at Torres on the 20th, and designed to march that night to attack the English at Vimeiro before the ships carrying Moore's brigade could disembark those reinforcements. Sir Arthur on his part had designed to march that same night for Mafra, passing round Junot's left flank and cutting his communications by placing himself between him and Lisbon, while covering his own communications with the sea. But Sir Harry Burrard, who was sent to supersede Sir Arthur in the command, was off the coast, and from on board his ship the *Brazen* forbade the operation, so that Junot on the morning of the 21st found his adversaries in position in front of Vimeiro.

Standing plan in hand on the hill at which we had arrived, which was occupied by Fane with the 95th Rifles and the 50th on the right, and Anstruther with the 43rd, 97th, and 52nd regiments on the left, with guns in their front, it is easy to realise the events of the battle. In the village of Vimeiro below us was the commissariat and train, and under cover of the hill also was posted the small force of cavalry. Beyond the village is the little river Maceira, whose course at this point is about N.E. and S.W., and a tributary stream coming from the N.E. which joins it near the village. Behind and beyond these streams is a higher range of hills than that on which we are standing, through which the united streams break, forming a rocky gorge. This range was occupied by British troops on the 20th and 21st, to cover the

landing at the mouth of the Maceira. The army was disposed as if to meet an attack from the southward, the right facing to the south on the hill which runs east and west on the south side of the Maceira, and joins on to the sea coast, the left on the high hill behind the village on the north of the Maceira, which there bends round to the N.E., the centre in advance of the village on the hill we are on. But Junot, having reconnoitred right up to the mouth of the Maceira on its south side, knew that the English were posted so as completely to cover the approach to Port Novo on that side, and naturally made his attack on the other flank. This part of the British position certainly was insufficiently strengthened, for absence of water had led Sir Arthur to post only a small number of troops there. The manœuvre of the French was, however, detected by the English general, who heard of the advance on the night of the 20th, and in the morning noticed the dust of the marching troops working round as if to attack his left flank. He therefore, unknown to his enemy, transferred the bulk of his troops from his right to his left flank. Acland's brigade moved into the valley north of the village and helped to strengthen the left of the advanced position. The French first attacked the troops posted on the hill which forms our point of observation. Fane repulsed them on the right, moving forward two battalions, and Col. Walker wheeling the 50th to its left so as to attack the French column both in front and flank. The guns under Robe poured in shrapnel, which was used for the first time in this battle. Having thrown them back, he sent the 43rd to assist Anstruther, whose left flank the French were endeavouring to turn and to get into the village in rear. The 43rd occupied the churchyard, and under its protection inflicted great loss on the advancing enemy, while a battery on the high range of hills behind the village assisted to throw them into confusion. The little force of cavalry of the 20th Dragoons, led by Colonel Taylor, now made a brilliant charge on the retreating enemy; leaving their post at the southern entrance of the valley, they turned about through the village, and mounting the back of the hill, where a road comes down between the positions of Fane's and Anstruther's brigades, they carried all before them, charging as far as a point about a quarter of a mile along the road, and then regaining their position after suffering a very heavy loss, among whom was the gallant Colonel Taylor. It is an instance of the difficulty of arriving correctly at the truth in regard to the incidents of a battle, that it is commonly said that the loss of the English cavalry was caused by an attack made on them by

the French cavalry, which was much superior in force, and this account is what would be inferred from the despatches of Sir Arthur Wellesley. The following extract from a letter from Belem, dated 28th September, by Lieutenant Du Cane, who took part in the charge, gives a different version of the matter :—

I rather suspect my information will be more correct than the despatches on that subject [*i.e.* the proceedings of the 20th Light Dragoons], for they describe our being overpowered by the enemy's cavalry. Certainly they were strong enough to have cut us up if they had known what they were about, but not one of them, although within fifty yards of us, ever attempted to come amongst us, and a few of our men, thinking they were Portuguese by being so quiet nor offering to molest us, went in amongst them, by which they got either killed or taken, otherwise they were the only



SCENE OF THE PASSAGE OF THE DOURO.

men we lost by the French dragoons, the rest being shot by the infantry. Poor Colonel Taylor was shot by them by pressing the broken infantry too far without support. . . . Captain Eustace was taken in the same manner by following them up too far, and was severely wounded in the thigh, but is getting a little better since he got out of the hands of the French. I thought it was a toss-up whether we were not all taken or destroyed, for we charged too far amongst them, and never was there a more unequal contest on account of the ground. We first of all charged through a vineyard and got into a wood, which was intersected from the vineyard by immense large dykes, in which several horses fell, unable to extricate themselves. There is not the smallest doubt but if the enemy had been pursued by us (for but half our force were in action, and all the French nearly) for an hour they would have surrendered at our discretion, and which was Sir Arthur's intention, but he was ordered not by Sir Harry Burrard, to whom much blame is attached, as well as Sir Hugh Dalrymple, for making terms; as it was, we certainly gained a very signal victory over the common

enemy; and never had the English so fine an opportunity of gaining one of the most decisive victories ever known as that on the 21st August, they would have made not less than 20,000 men prisoners of war. . . . When Eustace, my captain, was taken, which is the second time now, he was taken to General Junot, who appeared exceedingly pleased to see him, gave him refreshments out of his own canteen, and after paying him several compliments, declared to him that he had seen a good deal of service, but that he never was a witness before of a detachment like ours of dragoons doing their duty so well. He gave us wonderful praise, and certainly not undeservedly.

The French operations, however, were not confined to the attack on our advanced centre, but, as before-mentioned, were designed to turn the left of our position. A strong force, under Solignac and Brennier, were endeavouring therefore to carry the north-eastern portion of the high range behind Vimeiro. Difficulties of ground embarrassed Brennier, who lost much time in trying to find his way up the hill by a line nearer Vimeiro than the routes Solignac took, but they finally coalesced and came upon our troops posted to receive them near Ventosa, $1\frac{3}{4}$ miles from Vimeiro. Instead of finding here the flank of a line of troops, they found Ferguson's, Nightingale's and Bowes' brigades posted right across the summit of the hill, with their right flank, which was towards the French position, resting securely on the steep and inaccessible sides of the mountain. This attack also was repulsed, General Brennier taken prisoner and some guns captured one mile beyond Ventosa. The position of the French was now critical, with a beaten army, and owing to their attempt to outflank us with our army nearer than they were to their point of retreat. But Sir Harry Burrard and Sir Hew Dalrymple did not know how to take advantage of the circumstances Sir Arthur Wellesley had created for them; not only did they check our troops from consummating the victory and capturing some of the battalions which attacked our left (for they had no confidence in British troops as opposed to Frenchmen!), but they refused to carry out the larger operations which Sir Arthur prepared, by which the whole army would have been captured or destroyed, and allowed themselves to be persuaded to accept the surrender of the French army and to engage to transport it to France. The agreement, which made these unfavourable terms so much discussed at the time, is known as the Convention of Cintra. The suspension of arms was signed at Vimeiro on the 22nd August. The Convention was signed at Lisbon on the 30th August, and was ratified by Sir Hew Dalrymple at Torres Vedras on the 31st, and transmitted to Lord Castlereagh from the head-quarters at Cintra on the 3rd September. Cintra has, therefore, no title to give its name to the Convention, and the house there shown as the place

where it was signed certainly did not witness that historical event.

Having returned to Torres from this interesting donkey-ride before 2 o'clock, we finished our day by driving in a carriage drawn by two fine mules to Alhandra, a journey of four hours without stopping, during which we had a good opportunity of inspecting the line of country occupied by the outer line of the celebrated "lines of Torres Vedras"; for those works, many of which still remain, cross the hills at various points along our route, which indeed was, roughly speaking, at their foot.

An examination of the disposition of these works shows that the idea was so to place them as to forbid to the enemy the passage over the mountains through the gorges, and more particularly through those which had roads and so afforded means of carriage transport, and to support by artillery in position the resistance of infantry in opposing a passage elsewhere. The construction and the success of these lines should be a conclusive answer to the objections of shallow military critics to the defence of capitals and of important national establishments by lines of fortified works, for they enabled the British General to resist or turn back an invasion which his small force of trained troops alone were not strong enough to withstand, by affording positions on which the partially-trained Portuguese could successfully contend with their adversaries. To us, with our small regular army, these lines should ever afford an example showing how best to make use of the services of the kind of force we could get together on an emergency, so as to prevent the crushing disaster which a small invading force might otherwise by an easily conceivable combination of circumstances be enabled to inflict upon us.

The next scene in the war was the advance of Sir John Moore nearly to Madrid, and the retreat before Napoleon, succeeded by Soult, upon Corunna and Vigo. At this time the English soldier had apparently not acquired the reputation he was afterwards held in (among the Spaniards at least), for an officer of the 95th (Rifle Brigade) has related to me that he had heard the Spanish women remarking as they passed, that the English soldiers were "fine men but great cowards."

In April 1809 Sir Arthur Wellesley again took command, and moving north from the Mondego with 16,000 men and 24 guns against Soult, who was at Oporto, he came to the Douro at that place on the 11th and 12th May 1809. Soult was moving in retreat eastward to Spain, but he desired to delay the British advance at

Oporto in order to give time for his scattered troops to assemble and move on. He expected an attack on the lower side of the town, and was not aware of the arrival of the British army which was posted behind a hill on the left bank, and above the town, on the summit of which is the Serra Convent.

Oporto is situated on a hill rising steeply from the northern bank of the river, and the ground on the opposite or south side is of a similar character. Above the town, on both sides the river, the rock comes down very steeply some 200 or 300 feet high. The Serra Convent, on the south side, stands on the edge of the cliff; while on the opposite side, where the rock is somewhat less nearly vertical, there is a road running along the base of the hill, and houses here and there perched on ledges on its side. On top of the hill, on the Oporto side, higher up the hill than the Serra Convent, was, and is, a large unfinished building, called the Seminario del Bispo, which was quite unguarded, and having a court-yard enclosed with a wall would afford a defensive position if it could be seized by our troops. Guns were planted on the hill on which the Serra Convent stands, nearly opposite this building, so as to assist in holding it if captured. The difficulty was to find means of crossing, for Soult had ordered all boats to be withdrawn to his side and had burnt the bridge. But a sharp Staff officer named Waters discovered a little boat, which a barber had brought over in the night and hidden in the reeds a little up the river. Using this, he crossed the river, and brought back some barges. In these the 3rd Buffs crossed, under Paget, covered from view of the town by the cliffs round which the river bends. Sherbrooke's brigade crossed lower down, near where the road bridge now is; and these bodies, ascending the cliffs by a little ravine, seized the Seminary.

Soult was expecting his enemy on the lower side of the town, and though he had ordered the upper side to be watched and guarded, his instructions were neglected by General Marmet, and the movement of the British was discovered only by chance by General Foy, who was out for a morning walk. A large force was therefore got over unobserved by the French, the townspeople eagerly assisting in the operation. The Marshal had ordered a banquet to be prepared, and invited various notabilities to dine with him; but finding it necessary to leave in a hurry, to avoid being taken in a trap, his rival had the good fortune to profit by the preparations he had made for his dinner.

The scene of these operations remains so much as it was at the

time they occurred as to render it easy to follow them. The large Seminary, unfinished seventy years ago, is unfinished still, but the adjoining ground, which formed the scene of the French attack on our troops there posted, and which then consisted of fields separated by stone walls, has been converted into a cemetery.

The principal alteration in the appearance of the scene is due to the railway from Oporto to Lisbon, which, coming out of a tunnel, crosses the ravine which gave access from the river to the top of the cliff, and passing in a tunnel under the Seminary itself, crosses the river Douro by a magnificent iron arched bridge to the hill of the Serra Convent. But the works of the best military writers so commonly fail to give a proper idea of the features of the ground, that a very incorrect idea is likely to be gathered from



LEFT FLANK OF THE POSITION OF BUSACO.

reading them. The Seminary is described by Napier as being surrounded by walls *running down to the river*, which certainly does not give the idea that it is on top of a cliff; and the guns the English general placed on the Serra hill, about two hundred yards from the convent, in order to assist our troops in the defence of the Seminary on the opposite side, when they had seized it, are described and shown in plans as being *in front* of the Serra Convent, where there is no room for them, and where they would not have effected their object.

The discomfiture of the enemy was completed by the appearance

of a force of cavalry, which had crossed some miles higher up by a ford, and who, at the critical moment, appeared on the flank of the retreating French, who were headed off their best line of retreat by a force under Beresford, which Sir A. Wellesley had sent on for the purpose. The pursuit of Soult was continued through a desperately difficult country, to Montalegre, on the Spanish frontier, where it was abandoned. The troops suffered severely in the pursuit. Lieut. Du Cane, 20th Lt. Dragoons, writes, "I received your letter at Braga, where I was in bed very sick from the severities of the campaign. We were almost starved after we left Oporto, where we did not stop one day. The French had destroyed everything that came into their hands. We suffered terribly from bad weather, exposed day and night, and could only hope to come up with the enemy by forced marches, as he had destroyed every incumbrance."

Sir A. Wellesley after this shifted his line of operations, advanced into Spain by the Tagus valley, and fought the battle of Talavera, where he learnt never more to base his plan on Spanish promises of assistance, but to rely in future solely on himself.

The next scene in the drama was the renewed invasion of Portugal by the French in 1810, in which Lord Wellington was opposed to Masséna in the north. On his retreat to the lines of Torres Vedras (which he had prepared after Talavera), he fought the battle of Busaco on 27th September 1810, to show the Portuguese how to beat the French.

The excursion to Busaco is very delightful. From the interesting town of Coimbra, on the railway between Lisbon and Oporto, one leaves by the train to Mealhada, a journey of forty minutes; from thence an omnibus goes in an hour and a half to the baths of Luso, where there are several humble and cheap hotels, to which we found little objection, except that the company, who we presumed had come there for the advantage of the baths, hardly seemed to have availed themselves in any appreciable degree of their opportunities.

The Convent of Busaco, and part of the ridge which formed the left of the allied position, are easily accessible on foot or donkeys (the only mode of conveyance) in about an hour, by an excellent road, passing through the beautiful wooded grounds of the convent. A glorious view is spread out below the ridge. Shortly after leaving the convent grounds a guard-house is passed, and soon one comes to a prominent spot on which a monument surrounded by a platform and railway has been erected by the

Portuguese as a memorial of the victory. A map of the action enables this point to be identified as that which was occupied by Coleman's Portuguese brigade, and immediately to the north is the spur, flanking the main position on the ridge, behind which Crawford with such admirable results concealed his left division. Behind this hill, and separated from it by a valley, is another spur on which the German legion was placed with Campbell's Portuguese in prolongation; the monument is placed where these spurs unite.

The whole position has a very formidable appearance, though very long. The enemy who attack are at a very long distance entirely in view of the army defending it, and the difficulty of the ascent of so high and rugged a hill must give a great advantage to the defenders who are posted on its summit. A steep hill is, of course, not so formidable as it appears if, as is commonly the case, the attacking party find any cover in advancing, witness the action of Majuba Hill; while a smooth open space in front of a position affords such play for the weapons that it becomes a murderous position to carry, witness St. Privat. The two battles which have been described, Vimeiro and Busaco, afford examples of the advantage of a position which affords cover under which the movements of troops from right to left are made unknown to the enemy. At Vimeiro, as has been described, the movement of troops unknown to Junot from the right flank to the left brought a superior force against the enemy at the point where his attack was made. At Busaco the full view which our position gave our general of the operations of the enemy enabled him to move up the right wing, which was posted at some distance, to the support of the centre, and so repelled the attack of the French on the main ridge, which had for a short time been successful.

Though forced to retreat when the French had found a way by which the position of Busaco could be turned, they found themselves not long after brought up by the lines of Torres Vedras, of the construction of which, apparently, Masséna was quite ignorant; and after several unsuccessful attempts to attack them, and lying several months before them in a country which had been laid waste, he finally was obliged to retreat, pursued by the British, and thenceforward no French army set foot in the Kingdom of Portugal.



The American Naval War of 1812.

ROOSEVELT v. JAMES.

By H. Y. POWELL, F.R. Hist Soc.



THAT certain occurrences happened in the naval war between Great Britain and the United States between 1812 and 1815 is undoubted, but as to the details of those occurrences, and as to the size and force of the respective vessels engaged, there has been a long controversy not yet finally settled between the historians of the respective countries. An investigation into the merits of this controversy must necessarily partake of a statistical character.

The Americans gained a few scattered successes, as well as suffered losses, and their early chroniclers, soon after the war, described those successes in enthusiastic terms as gained by equal, or even inferior forces, while the British state that they were gained in every case by a decided preponderance of force, carefully contrived beforehand.

Various authors have written on both sides, and among the Americans may be mentioned B. J. Lossing, H. B. Dawson, and Fenimore Cooper; on the British side William James is the principal authority, superseding Brenton and Yonge. Within the last few years a fresh work has been published by an American sportsman and author, Theodore Roosevelt, who aims at no less than becoming an arbitrator between the contending parties. His work, an octavo volume of 500 pages, is a very respectable compilation, and contains much that is true; but owing, perhaps, to the great difficulty of clearing the mind of national partialities, it is blotted with many mistakes, as well of the author's own as of the previous writers', and of the old erroneous records that he has consulted.

It seems as difficult for American authors to divest their minds of

old exaggerations and glorifications as for Martin, in the *Tale of a Tub*, to get off the tawdry ornaments from his coat. To justify his opinions, Mr. Roosevelt endeavours to confute James in numerous instances, and charges him not only with errors but with wilful "garblings." Nothing, however, can be more unfounded. There is probably not a historical work in existence which, in proportion to its bulk or quantity of statistics, contains fewer errors than the *Naval History of Great Britain* by William James. This is in respect of facts and irrespective of matters of mere opinion. Roosevelt, however, charges him with falsifying the size or tonnage of the ships engaged, of falsifying the complements of men, and various other details. On the contrary, James is not only laborious in collecting a copious amount of information, but is most particular in giving details with exactitude.

The following are some proofs. Sir John B. Warren having sent in a report which slightly exaggerated the force of certain French ships captured by him in the year 1794, James both publishes the error and gives the correction. Captain Milne, in the year 1800, having made a statement that the frigate which he captured mounted French 42-pounder carronades, James corrects him by saying they were only 36-prs. American officers making oath that their brig *Argus*, captured by the English, was of about 350 tons, James points out that her real size in British measurement was only 315, though it would be to his advantage to accept the larger amount.

American accounts state that the *Chesapeake* was of 1,244 tons [originally intended], but instead of adopting that, which he might well have done, James states her tonnage was but 1,135 British measurement; she having been built smaller than first proposed.

The American author Emmons* enters the U.S. ship *General Pike*, a decked corvette on the lakes, at 875 tons, James puts her down as only 820.

There are numerous other instances throughout his history of conscientious corrections, and can it be supposed that an author so scrupulous would the next moment wilfully "garble" other similar data?

Mr. Roosevelt has made several admissions of a very important nature which do honour to his character as a man and a historian, though very damaging to his cause. Among them he allows that the early American writers "sedulously concealed"

* *Statistical History of the United States Navy*, 1853.

the force of the contending vessels. That the American frigates were very heavy, and the British quite inferior. That Fenimore Cooper's history was very inexact, but that James was invaluable and statistical, but highly partial. That the American victories were "magnified absurdly" by their chroniclers. That the *Guerrière's* crew was only 270, while her opponent's, the *Constitution's*, was 460. That there was a certain proportion of British seamen on board the American vessels, though less than James alleges.

Having conceded so much, Roosevelt then puts about on the other tack, and endeavours to work completely to windward by trying to explain away the difference in size, to explain away the difference in complements, and the difference in weight of metal; but while doing this he is all the while on a wrong course. Yet, having gained this supposed advantage, he is then in a position to turn round to his admiring countrymen and congratulate them on the unexampled skill, courage, and efficiency of the American navy of 1812. That, indeed, is the refrain of every chapter, that is the pæan which he continually sings.

The size of the ships engaged in this war is one of the most important items on which there has been dispute. Roosevelt admits there is discord between American authorities, but wishes to throw the censure chiefly on James. However, if he had made deeper researches he would have found that the British mode of taking tonnage, as adopted by James, was prescribed by the Admiralty in 1781, and remained entirely unaltered until 1872, though mercantile tonnage rules were changed in 1836 and in 1864. It now remains for an Englishman to enlighten Mr. Roosevelt on American tonnage, by pointing out that there were different modes of calculating it in the United States. One system at New Orleans, another at Philadelphia, and a third at least in the Northern States. (See Brady's *Kedge Anchor*.) An Act of Congress was passed in 1799, giving a rule which should have been adhered to until 1836 at least. But the difference between British and Congressional tonnage could not be great, because both the measurements and calculations were nearly the same; very small alterations were made by the Americans, more to show their independence than for any good reason. Their 44-gun frigates under the Act of 1799 measured 1,576 tons, under our Admiralty rule 1,533, but under the old Philadelphia rule 1,444. The British system comes intermediate, and is about 3 per cent. less than one American rule, 6 per cent. more than the other.

The following are instances :—

	Guns.	British Tons.	American Tons.
<i>United States</i> - - -	44	1,533	1,576
<i>Essex</i> - - -	32	867	850
<i>Florida</i> - - -	22	539	509*
<i>Argus</i> - - -	18	316	298

This proves that the difference was not considerable.

On the contrary Roosevelt, taking up some rough erroneous guesses in old reports, gives the size of the three British 38-gun frigates captured by American 44's as averaging 1,335 tons each ; but he will see himself, on reflection, that the statement is absurd, for the following reasons :—

1. The British tonnage by all standard authorities was only 1,070 to 1,090, and it has just been shown the American measurement could not be very different.

2. The crews of the English ships comprised, usually, but 300 persons each, while their opponents counted from 450 to 475, raised after the war to 480 (*see* Emmons). This infers that the ships varied nearly in proportion.

3. Had the British ships been of the size alleged, they would have been well able to carry 24-pounder guns instead of the 18's which it is granted was their actual armament. There were three 36-gun frigates in the American navy originally intended to carry 24-pounders, but finally armed with 18's, and these ships measured 1,250 tons each ; hence, increasing the size to 1,330 tons would have enabled them or the English frigates to carry the heavier guns with ease.

4. The load displacement of the *Constitution* has been repeatedly entered on American Navy Lists at 2,200 tons ; but the load displacement of the English 38's is stated by several standard and scientific works on naval architecture—Edye, Fincham, *Encyclopædia Britannica*, &c.—at less than 1,500 tons, again showing an immense difference in size. Now this “displacement” is calculated alike in all countries, by a long scientific process.

5. Joshua Humphreys, the noted shipbuilder of Philadelphia, who designed most of the American frigates, originally urged upon the authorities by letter that they should be built of such an extraordinary size and force that any enemy's ship of less than 64 guns “must” infallibly strike to them. Now, the 64-gun ship of that period (1794 to 1812) was a two-decked line-of-battle ship,

* By Philadelphia rule 509 tons, but by United States rule about 550.

and the next class below it was also a two-decker, though of dwarfed dimensions, the 50-gun ship.

Hence Humphreys plainly meant that his new frigates were to be so large that they would certainly capture a two-decked "fifty." The fifty was deservedly considered an overmatch for any European frigate, and it is therefore ridiculous to suppose that the British frigates were of 1,330 tons, which would have made them well able to contend with or conquer a 50-gun ship.

It seems singular that American authors, who all boast of their researches, inquiries, and opportunities of gaining information, never seem to have come across these betraying letters of Joshua Humphreys, these veritable *litteras Bellerophontis*.

6. The size of ships was obviously proportioned to the weight of cannon carried, and the weight of the guns and carronades carried by the 44's was 105 tons, of those borne by the 38's only 72 tons. This infers once more that the American frigates were half as large again as the British.

7. The dimensions of the vessels speak for themselves.

	British 38's.	American 44's.
Length on lower or berth deck - - - -	150' to 155'	173' to 175'
Breadth outside - -	40'3'	45'
„ moulded - -	38'10'	43'6'
Load draft of water aft -	19'6'	23'5'
Actual displacement in tons	1,500	2,200
Nominal tons } British rule	1,070	1,533
rated } American „	1,030 to 1,100	1,444 to 1,576

In whatever possible way, therefore, the subject is examined, the same result is arrived at—namely, that the American ships were nearly 50 per cent. superior to the British, and not, as alleged by Roosevelt, merely exceeding them by some small amount. This is not a question of cavilling about the dust of the balance, but about hundreds of tons.

Considering that both *La Guerrière* and the *Java* sank to the bottom within a few hours of their defeats, it is curious to speculate what leisure the Americans had, with the removal of prisoners and effects to measure the two ships so accurately as to fix their size to a ton each. If we refer to the Government models at the Naval Museum of the Louvre, Paris, we find that frigates of the *Java* or *Renommée* class, carrying 28 long 18-pounders on the main deck, were built by the distinguished Sané, of only about 1,400 tons displacement each, and of the dimensions 152'6' long by 39'.

moulded breadth English measure. Here is disinterested evidence settling the size of the *Java*, and consequently of *Macedonian* and *Guerrière*, as there was admittedly but little difference between them.

To save the reader trouble in referring to historical works, it may here be recapitulated that one of the first actions of the war was that between the British frigate *Guerrière*, 38, which had been captured from the French a few years before, and the American 44-gun frigate *Constitution*. The *Guerrière* was of the size and force here explained, and her crew was reduced by manning prizes to a total of 264, while the *Constitution*, besides her heavier guns, more massive sides, and stouter masts, had a crew of 468. After some manœuvring and firing, a warm contest ensued for half an hour within short range, when the British ship, having lost her masts, was compelled to strike, with 78 men killed and wounded. The American had made an attempt at boarding, but had been repulsed. The British captain attributed his want of success to the early fall of the masts, of which the main was decayed previous to going into action.

A month or two afterwards the *Macedonian*, British 38, was captured by the *United States*, American 44, after a well-contested battle, by which the former suffered a heavy loss; and in December of the same year (1812) our frigate *Java* was captured by the *Constitution*, already mentioned, after a prolonged struggle. In the three cases the disparity of force was nearly alike, but the *Java*, having more men than the other English ships, though still 100 short of the enemy, was enabled to make a longer defence, which has been much admired, and to inflict more damage on her huge opponent. In fact, the character of our naval service was nobly upheld in the three conflicts; and if our countrymen had anything to reproach themselves with, it was a neglect of practical gunnery previous to the battles, for the Admiralty had ordered a most sparing expenditure of ammunition in exercises. A long course of success at sea had made officers and men careless, and an impression had been formed that they had only to run alongside an enemy, no matter how superior in force, give three cheers (*sine quâ non*), and the day would be their own. When opposed to a larger ship, with more and heavier guns, more numerous crews, and a respectable degree of efficiency, combined with the most assiduous preparation beforehand by the enemy, our vessels met with unexpected reverses. The only moral was, we were to be more careful for the future.

On the other hand, when the necessary pains had been taken, the British kept up their former renown by gaining the day upon meeting antagonists of equal or even superior force, as in the celebrated instance of the *Shannon* capturing the *Chesapeake*, though the latter had 390 men to 330; also the defeat of the *President*, 44, by the *Endymion*, 40. And the British brig *Pelican* captured the American brig *Argus* of the same rate, rather smaller indeed in size, but with more men.

Several English brigs of 18 guns were captured by American three-masted corvettes, mounting 20 or 22 guns, and with superior complements of men, but Roosevelt will have it that these brigs measured from 467 to 477 tons. The statement is ludicrous, as up to 1830 we had no brigs in the service of such a large size. The English tonnage was but 385, and the American tonnage might be anything from 320 to 395. A better comparison will be the load displacement, which was 450 tons with the brigs, about 550 for the American *Wasp* (of 1812), 600 for the *Hornet*, and 650 at least for the 22-gun corvettes. For proof of this, reference can be made to Edye's work, and to the dimensions in Charnock's *Marine Architecture*, Brenton, Fincham, Burney's *Falconer*, and the Catalogue of Naval Models at Greenwich College; also Knowles' work on shipbuilding, 1822, which contains a drawing to scale of the brigs, and also specifications for their construction.

Another excuse of the Americans is that their cannon balls in 1812 weighed 7 per cent. less than the English. While iron remained iron, this seems very improbable. Whatever improvement in manufacture was made in England could be known in the United States within a month; and a common language, with much intercommunication, would facilitate the utmost diffusion of information. It appears by one authority that cannon were actually ordered in America in 1799 for the English service, and the Americans now claim that their iron and iron ore are as good as any in the world—see that standard authority, Holley on *Ordnance*. And we find that when our shot were slightly enlarged by the advice of Sir Howard Douglas after 1819, they were still rather under the supposed weight. American shot, by Douglas's *dictum*, filled the bore of the cannon more nearly than English, that is, they had less windage, and American State Papers recite that no less than 900 shot were returned from the *Constitution* as being too large for her guns; hence they habitually gave good weight and size.

By the *United States Ordnance Manual* it is stated, in 1850, that

their shot all weighed then rather more than their nominal amount. All things considered, the underweight of American shot in 1812 was either trifling or did not exist at all.

American officers probably assumed that British shot were of their full nominal weight, and finding their own rather less came to the conclusion there was a considerable difference between them.

On the contrary, an American officer and author of great repute, Dahlgren, gives the weight of United States 32-lb. shot as $32\frac{1}{2}$ lbs. average each, and of the English only $31\frac{1}{2}$, even when enlarged, after the war. In 1812, English shot would be $30\frac{1}{2}$ to 31 lbs.

Captain Simmonds, in his work on *Heavy Ordnance*, 1837, states that in his day English shot, in good condition, were even then below their nominal weight. The 24-pounder shot, in good condition, weighed less than $23\frac{1}{2}$ lbs.

Among the errors in Roosevelt's works may be found the following:—

1. That the *Endymion*, British frigate, carried 28 guns on main deck, when she really had but 26. (See *Falconer's Dictionary*, 1815, and the architect's plans to scale at Naval Lyceum, New York, and South Kensington Museum, London.)

2. That the *Endymion* was rendered helpless by the *President's* fire, but it appears that she still had sails on her fore-mast and mizen-mast, consequently keeping her under command of the helm, yet she ceased chasing, as her consorts were rapidly coming up, and it was thought the *President* had struck. Roosevelt repeats Commodore Decatur's statement that the *President* lost 79 killed and wounded, but overlooks his remark, "fearing its being short of the real number"; also that, in the same letter, the Commodore states the loss was about "one-fifth of the complement," which Emmons admits to be 455 at least, so one-fifth would make the loss 91. But James's evidence is very strong for 105.

3. That the *Acasta*, 40 guns, was nearly as large as the *Constitution*, while the difference was actually almost 400 tons less. See Charnock's *Marine Architecture* and Fincham's *Shipbuilding*.

4. That the American 36-gun frigates, *Constellation* and *Congress*, were smaller than British 38's, while they were actually some 150 nominal tons larger, and of 300 tons more displacement, according to the United States Navy List.

5. That the French and British had frigates as large as the Americans, while the two alleged instances (*Egyptienne* and *Forté*) were, in fact, 100 to 150 tons smaller, and had smaller crews and rather lighter armaments.

6. That it is out of the question to suggest the American frigates were, when compared to the British, at all "line-of-battle ships in disguise." But Admiral Preble of the American navy, in a magazine article, wrote "there was reason then in the saying of the enemy" to that effect. Which are we to believe, the sportsman Roosevelt or the Admiral?

7. That the Danes had a very large frigate, *Najaden*, in 1812, while it appears from recent letters of Lieutenant Hovgaard of the Danish navy that she was scarcely equal to a British 38, and did not carry 24-pounders, but guns throwing balls of 19½ lbs., and with a crew of only 336 men. The mistake arose from rumour, and gained credence, as the British never were on board of her.

8. That the British 18-gun brigs had complements of 125 to 135 men, while in reality their establishment was 110 to 120, scarcely ever any supernumeraries.

9. That the British small squadron on Lake Erie had more sailors than stated by James, while Captain Barclay himself, the commodore, has mentioned that there was "never at any time on board the flotilla more than 50 British seamen," only 20 at first, and 30 more afterwards.

10. That British sailors were not employed to any considerable extent on board American ships; but Samuel Leech, a sailor who himself went over to the American service, says that it was very common. See his noted autobiography, *Thirty Years from Home*, 1843, Boston. What are the probabilities? Wages were higher in the American service, the language, customs, and work were alike. There was great inducement for English sailors to serve in American ships, none for American sailors to enter English ships.

11. Roosevelt says the *Chesapeake* had 380 men. Admiral Preble says 390 to 400. American authors say she had a scratch crew. The British say most of her men had been in her during the previous cruise of two years. If not, why did they demand certificates for old prize-money when sailing out to meet the *Shannon*.

A bribe they called for ere to fight they went.

"Hence to your guns!" the haughty Lawrence cried.

American Mariners, by J. Davis.

12. That the *Java* had 426 men on board at the time of the action, while Admiral Chads, who was her first lieutenant, declared that James's account was perfectly right at 377, or he would have had it altered. (See James's *Naval History*, Edition of 1886, Appendix to 6th Volume.) Now Admiral Chads, according to his bio-

graphy by Captain M. Burrows, R.N., was a man of earnest religious sentiments and practice.

American authors represent the *Essex*, carrying 46 guns, as a "little ship," compared with her antagonist, the *Phæbe*, but the latter was only four feet longer, and but 60 tons larger, 926 to 867, though undoubtedly she possessed an advantage in having the majority of her guns long 18's, whilst the *Essex* armament was mostly of carronade 32's. Captain Porter's defence was gallant and protracted, but his official account is rather too enthusiastic. For instance, he writes : "The enemy was enabled to take aim at us as at a target, and his shot *never* missed our hull."

Again, after being for months in the same harbour as the *Phæbe*, and doubtless occasionally on board her, he writes home, "she carried 30 long 18's," while it is well known vessels of her class never had more than 26.

Again, his official letter states he had "only 75 men fit for duty" at the close of the action, "many" of them severely wounded (say 60 nett); but in another part he recapitulates only 155 killed, wounded, and escaped out of 255, leaving 100 safe and unhurt. A serious discrepancy, more especially as the British official account returns 119 prisoners as unhurt. Porter does not explain how men can be severely wounded and yet fit for duty, but to be sure they were Americans !

James is charged with falsifying Captain Hillyar's report, but he plainly says that he considers the Captain was misled by his prisoner, and undertakes to correct the account. Porter writes he could not reach the *Phæbe* with his carronades, but James says of the shot that did strike, nearly all were from the carronades ; the others mostly flew over the British ship, and beyond her.

There are no grounds whatever for imputing treachery to Captain Hillyar ; on going into the neutral harbour where the *Essex* was anchored, he ran his ship alongside, and in a chivalrous spirit inquired after the health of Captain Porter. There was risk of the ships getting foul, and Porter used threats, but Hillyar replied that he had no intention of hostility. The American captain himself was the first to break the neutrality, on the showing of his own official letter, by sailing out of harbour on an occasion previous to the battle and opening fire on the *Phæbe*. Had Hillyar intended fighting he would have commenced at once in the harbour, instead of hailing, with compliments.

James is taxed with not giving his authority for every statement, but he says in his preface to *editio princeps* that he derived his

information from almost daily searches for several years in the Admiralty records, and from a vast correspondence with naval officers. The name of his informant he does not give in every case, as all Government authorities are generally averse to officers affording information to the press without special permission, if at all.

Our author suggests that Captain Carden could have fought the *Macedonian* to greater extremities than he did—"What words have passed his lips unweighed!" The ship was helpless, had lost her masts, and 100 men out of a crew of 300; and her adversary having taken a raking position across her stern, further resistance would have been not so much courageous as insane.

A favourite argument of American writers is that, granting their ships had a superiority of force, yet the execution done was beyond that proportion; and the answer is that where there is a great disparity that is generally the case. For instance, a French frigate at the Nile opened fire on a British 74, and was sunk by one or two broadsides in return without having done much damage to the line-of-battle ship.

Mr. Roosevelt has written calmly and in a good spirit, but he must make many corrections before his work, however agreeable in America, can be accepted, as he wishes, for a standard on both sides the Atlantic; and when those corrections are made the basis left for glorification on the part of his countrymen will, alas! be largely cut away. The English, while allowing that the Americans in 1812 exhibited a very respectable degree of efficiency in the dockyards and on the waves, cannot see that there was much "brilliancy" or "glory" in large ships capturing small ones.



Some Notes on Military Topography.

By CAPTAIN WILLOUGHBY VERNER.

PART VII.



INCE the whole system of sketching with a magnetic compass, as described in previous chapters, depends upon the application of the principle of plane-table sketching, it may be as well to give here a brief description of the plane table as used for military purposes.

This is the more necessary, since it is commonly and erroneously supposed that a plane table cannot be carried about, save only by a regular organized party of surveyors, equipped with all the requisites of their trade.

It must be clearly understood that it is not contended that all officers should carry plane tables, however portable, in their field kits; their pocket compasses alone, used in the manner already described, should enable them to do any rough sketching that may reasonably be required of them.

What I shall endeavour to show is that a plane table well suited for military purposes can be made in such a portable form as to be easily carried by an officer (either on his saddle, if mounted, or in his field kit) who may be especially employed on topographical work, and in consequence may be required to do a careful military survey of any portion of ground. The same instrument will, of course, enable him to carry out a military sketch of a large portion of ground with greater rapidity and accuracy than by any other known method, since a really good plane table, which is so portable as to be easily transferred from one point of vantage to another, combined with the judicious and enlightened use of a range-finder, gives an enterprising reconnoitrer a power of rapidly delineating ground never possessed before.

Nothing is more exasperating, to my mind, than to hear the raven-like croak of some men too unenterprising to make any

departure from the painfully restricted grooves of the old system of sketching, who say that a base taken with a range-finder is "unreliable" since it can never be reckoned upon as being within 20 yards, more or less, of the correct distance, under the most favourable circumstances.

To such I would reply, What practical soldier cares if there be an error of 20 or 40 or even 100 yards in a base line of some thousands of yards in length?

Such a remark shows a confusion of ideas between the functions of the topographical surveyor and the military sketcher.

In a rapid sketch and report on a piece of country, a base of 3,000 yards measured 50 or 100 yards long or short could not affect in the least degree the military value of the work.

The plane table in its most complete form, solidly constructed and mounted, consists of three portions, viz. (1) the board, or top; (2) the "movement" whereby the board is truly levelled; and (3) the stand or tripod that supports it. Such instruments are of necessity of some bulk, the very lightest, that used by the United States in their coast survey with such success, weighing about 20 lbs. This instrument is considered to be a model of portability and lightness for the work it has to perform, those used by the Continental nations in some cases exceeding 50 lbs. in weight.

It can readily be imagined that plane tables of this description are debarred by their weight and bulk from forming a part of the equipment of an officer on active service. The plane table used for ordinary military purposes, then, consists only of a board and a supporting tripod; the levelling movement, necessitating as it does the introduction of ball and socket, levelling screws, &c., is dispensed with, the board being levelled by carefully shifting the legs of the tripod, which is found to be sufficiently accurate for the purpose.

The chief requirements of a table constructed in this modified fashion are to have a good level block or bed on the top of the tripod, through which works the bolt upon which the board revolves, and to which it can be rigidly fixed when required by turning a clamping screw.

The size of the drawing-board is a matter of some importance. Those used by surveyors are of all sizes up to 24 inches \times 30 inches, the commonest being about 14 inches square. The dimensions of the present Government military pattern are 12 inches \times 14 inches, and this is a very useful size for ordinary work.

The drawing-paper is attached in such a manner as to present

a smooth surface on all sides, and so as not to interfere with the free use of the sight-vane. Various ingenious contrivances are employed in carrying out this requirement, one of the simplest and most effective being that invented by Colonel Richards, and employed on the present Government pattern boards. The tripod of the latter when closed measures 4 feet 3 inches, and when set up with a reasonable degree of stability, viz. with its legs planted

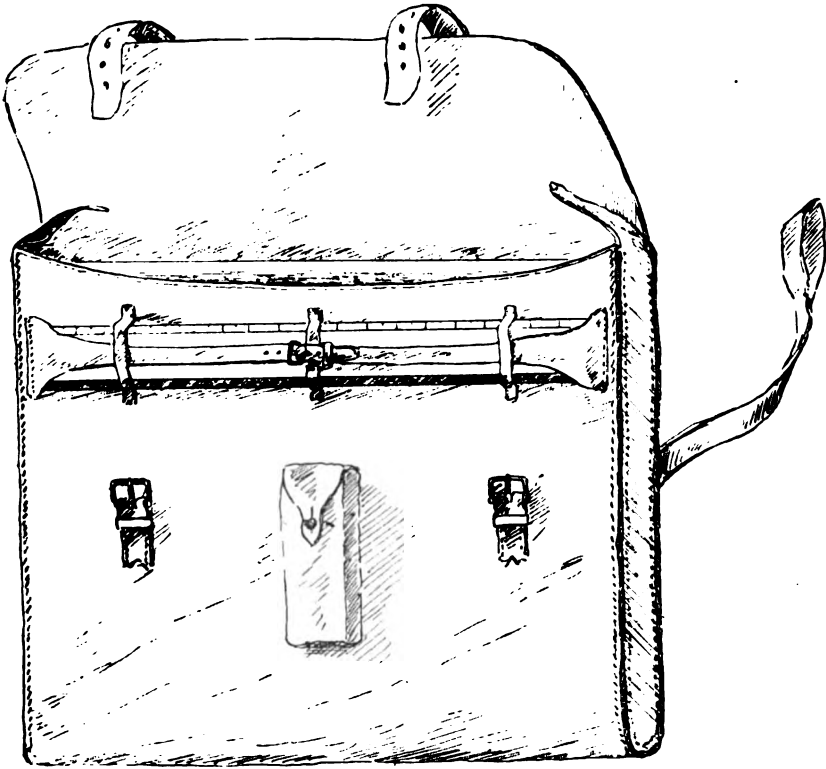


FIG. 1

at intervals of 3 feet 6 inches or so, the height of the board from the surface of the ground is 3 feet 9 inches. The weight of the board is 2 lbs. 14 oz., and that of the tripod 4 lbs. 5 oz.

Now, excellent as is the instrument here described, it is clear that except under exceptional circumstances, when a man is regularly employed in topographical work, it is eminently non-portable either when on foot or mounted. Of course a man can

carry a closed tripod in his hand when mounted with as much ease as he can a lance or a carbine, but that is beside the question of general portability. Also the board, 14 inches \times 12 inches, can be slung on the back or to the saddle, but is obviously an encumbrance.

The question, then, is how to retain all the advantages of a good-sized plane table, and yet construct it so as to be fairly portable. First, then, as to the dimensions of the drawing-board.

Assuming that 12 inches width, the present authorized measurement, is to be retained, it remains to be seen how to reduce the size without in any way interfering with the utility of the board. Now the present length of 14 inches is only selected in order to give sufficient length for the sketch between the opposite edges to which the paper is at present clamped. By fitting rollers 12 inches in length to either end of the board in a fashion similar to Colonel Richards's Cavalry sketching-case, it is clear that any amount of length of paper can be carried on the rollers, and that the measurement of 14 inches can be reduced to whatever will afford the minimum surface necessary to draw upon. This may be assumed to be about 9 inches, and hence it is plain that by the adaptation of the Cavalry sketching-case principle to the plane table, a good workmanlike board, measuring only 12 inches \times 9 inches, can be made to do all the work of a much larger board, with an equal degree of comfort and accuracy. Further, it possesses a vast advantage over any ordinary board, since the rollers enable any required length of paper to be carried.

If the work in hand were the accurate mapping of a bit of country for a projected road or railway, where a considerable length of ground in proportion to its width would naturally be required to be shown, this would be of incalculable benefit to the sketcher.

In order, however, to reap full advantage from a board constructed in this manner, two things are essential, namely, the employment of a description of paper suited to the purpose, and the adoption of some form of roller that will be strong enough to exercise a rigid tension on the paper stretched across the board. The two are almost inter-dependent, since thick paper will not lie flat, and requires a greater mechanical effort from the rollers than they can ever be made to exert, so long as portability is a factor in the question.

So much for the board. Now for the tripod. The innumerable

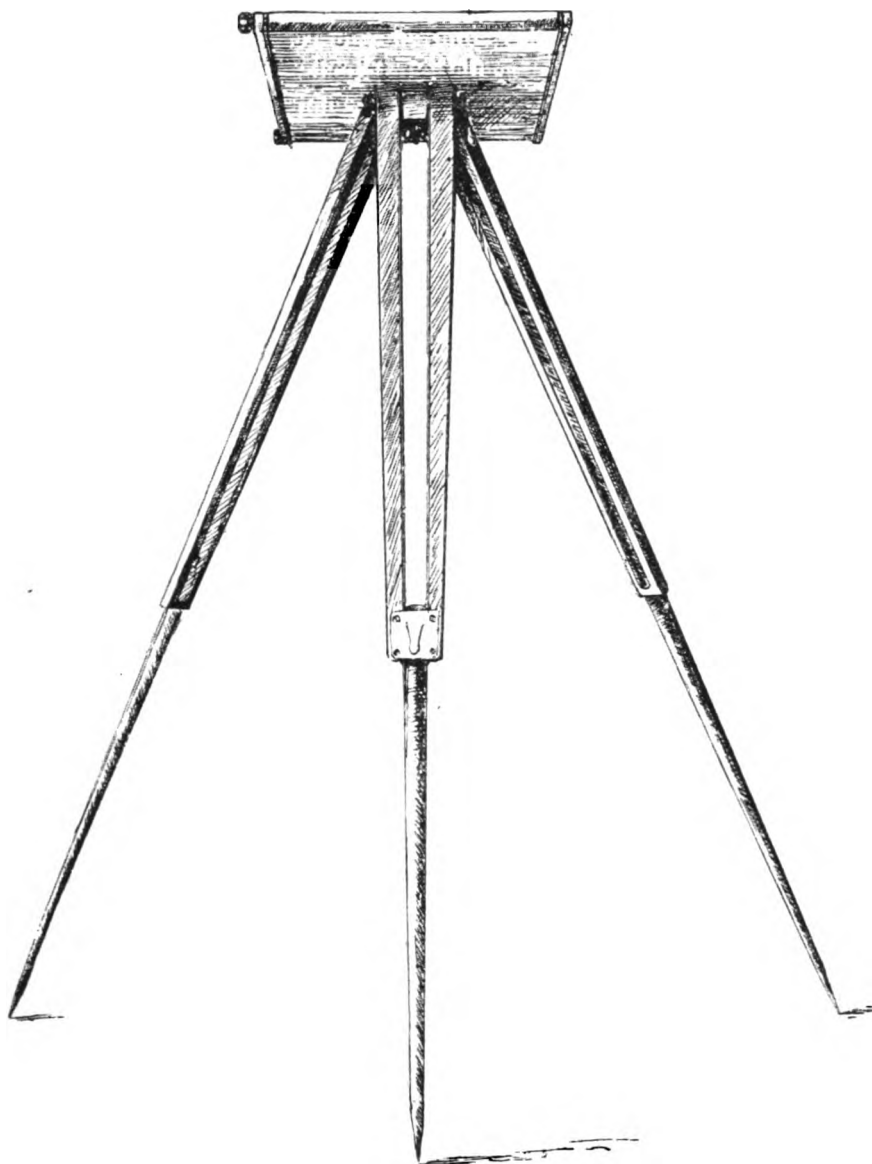


FIG. 2.



FIG. 3.

patterns of folding stands for photographic apparatus will undoubtedly suggest to the mind of the reader some means of reducing the bulk of the regulation tripod. The one essential is rigidity when in use, and that is where so many portable tripods fail.

One of the most rigid is on the well-known "draw out" principle. The upper portions of the legs are double, the lower portion sliding between them; the accuracy of the working being ensured by a flat brass plate screwed to the "draw out" part, and which works smoothly in a deep groove cut on the inside edges of the double upper portion or standing part.

When drawn out to its full length, each lower portion is firmly fixed by a pawl, which works into a stud-hole. To close the stand the pawl is raised, and the "draw out" portion run home.

The length of this tripod when closed is exactly 2 feet, and when open 3 feet 9 inches. When set up for work the surface of the board it supports is 3 feet 3 inches from the ground.

The weight of the board is 1 lb. 18 oz., and of the tripod 4 lbs., or under 6 lbs. altogether.

A board and tripod of the foregoing description can be carried with ease on the saddle by those who require a plane table. The board going into a leather case attached to the D's on the saddle, and with a loop strap to steady it round the girth. The sight vane ruler, 13 inches in length and $1\frac{1}{2}$ inch wide, with a sight-vane 2 inches in height, and a trough compass 4 inches \times $1\frac{1}{8}$ inch, carrying a 3-inch magnetic declination needle, being stowed in a pocket outside the case, as shown in Fig. 1.

The tripod when closed can be carried with ease in a "Namaqua bucket," or can be strapped on the holsters like a "picketing stake." Of course a special leather case could be made if required. The Namaqua bucket is perhaps the simplest way.

Fig. 2 shows this plane table set up for use. In Fig. 3 the tripod is shown with the legs returned home ready for stowing in the case.

So much for regularly-constructed portable plane tables. Let us now see what can be done in the way of manufacturing some sort of light and handy sketching apparatus on the principle of the plane table.

The difficulty of carrying a board of a convenient size for sketching, even when reduced to its minimum by means of the adoption of rollers, as already described, led me to endeavour to work out a pattern of board which, whilst presenting a large enough surface to fulfil the requirements of a plane table top, could also be easily rolled away in a haversack or one's holsters.

The principle upon which they are made is neither more nor less than that of the old-fashioned kettle-holders or dish-mats made of strips of thin wood glued to a backing of leather or American cloth. To convert one into a sketching-board, a couple of metal loops are pivoted at alternate corners, which are made to grip the strips of wood at the opposite ends, and thus form an absolutely rigid board for drawing or writing. The metal loops serve, at the same time, as a ready and certain means of stretching the drawing-paper across the board. In order to admit of the free use of the sight-vane ruler, the metal loop should be counter-sunk level with the top side of the board.

A small brass eyelet is screwed into the centre of the bottom of the board, to which a piece of string is secured for a purpose explained hereafter.

Fig. 4 shows the board rolled up, when it forms a cylinder $2\frac{1}{4}$ inches in diameter. When thus rolled, the metal loops are

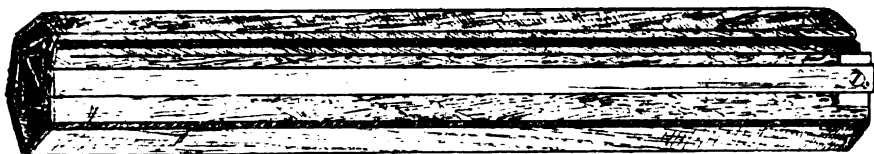


FIG. 4.

bent back and neatly stowed along the opposite strips of wood forming the outer edges of the board.

Fig. 5 shows the board with one loop gripping its edge, and the other about to be likewise closed on the opposite side.

Such a board is eminently portable. The weight of one a foot square is just 1 lb., and forms, when closed, a roll measuring 12 inches \times $2\frac{1}{4}$ inches, which would not occupy any inordinate amount of room in an officer's kit-bag, and on an emergency could easily be carried in a haversack.

It can be used, of course, as an ordinary sketching-board, and will be found particularly convenient for writing orders in the field, &c., since the top edge of the paper can be slipped under the metal band and thus secured, leaving the left hand free to hold the board.

This latter property of being able to secure the paper is very useful when writing in a train or carriage. Most people are aware that so long as a traveller does not lean back in his seat, he can write in a train without difficulty on a board held rigidly on the

left arm. To do this with ease, the board should be the same length as the writer measures from the bend of his elbow to the upper part of the palm of his hand. When writing in this fashion the board is held as shown in Fig. 2 of Part II. (p. 1863), and the *right hand top corner* of the writing-paper should be slipped

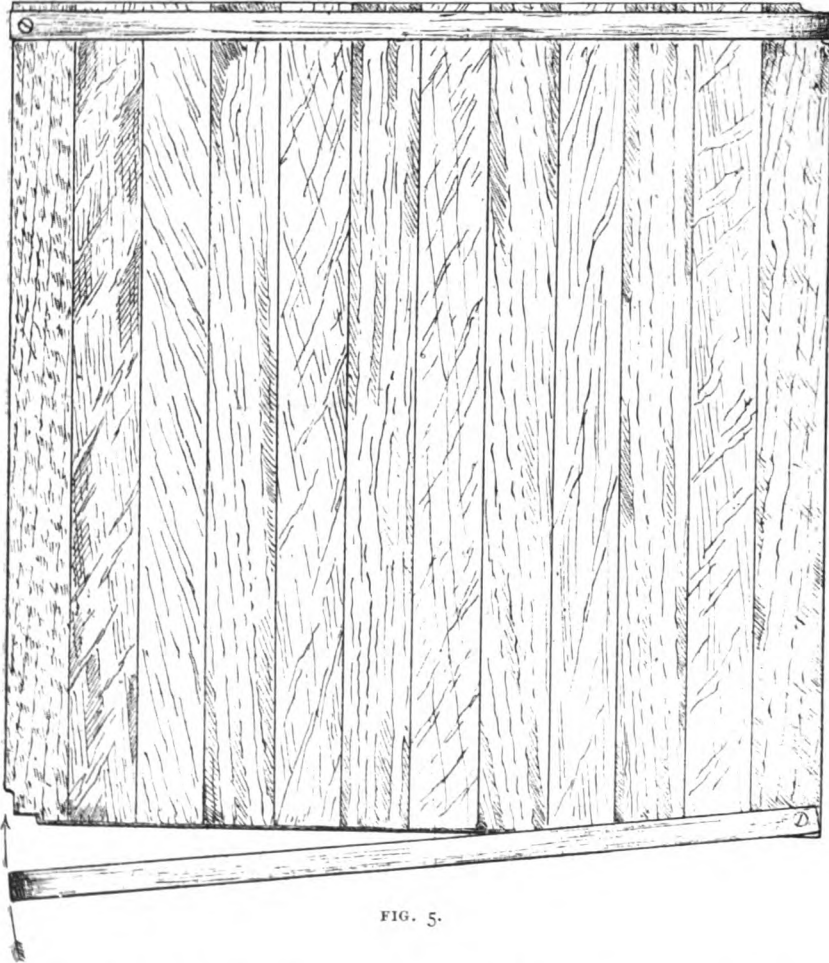


FIG. 5.

under the metal band so as to obtain the greatest degree of comfort possible.

An extemporized tripod for a board of this description converts it into a very serviceable rough plane table. It was whilst debating this matter that I happened to come across a light tripod invented by Col. Weldon, of range-finding fame, which so exactly

suiting my folding board that I abandoned any ideas of bringing out one of my own design.

Col. Weldon's tripod is shown in Figs. 6 and 7, and consists of three light pickets 4 feet in length, with a brass ring 2 inches in diameter encircling them. At the top of each picket a flat wooden disc $1\frac{1}{2}$ inch in diameter is attached by a screw, but *not* through the centre, thus causing the disc, when revolved, to work as an eccentric. These eccentrics are capable of being rigidly fixed in any required position by simply turning the fly-nut fitted on the end of each screw. To the brass ring is attached, by means of a few inches of cord, a wooden three-sided wedge.

To set up the tripod, the legs are opened to a convenient distance apart, to ensure the requisite amount of stability, and the brass ring slipped to any suitable point so as to regulate the amount of splay between the tops of the pickets. The triangular wedge is then dropped into the interstice between the pickets inside the ring, and the board placed on the top of the pickets. By pressing downwards on the board with the left hand, and gently working the ring about with the right hand, it will be found that the board can be very fairly levelled. As soon as this appears to be the case, the wedge should be pressed firmly home between the pickets, so as to jamb them in the required position. The string fastened to the bottom of the board is now passed round below the wedge and over it, in such a manner as to "frap" it, and finally secured by jamming it downwards between the wedge and one of the pickets, as shown in Fig. 8. The final adjustment of the level of the board is then performed by turning the eccentric discs and clamping them in any required position. The level can be easily tested by placing a marble or bullet on the top of the board.

The foregoing process, which is a great deal easier and more rapid to carry out than it is to explain, will be found to result in the production of a really excellent rough plane table about 3 feet 8 inches above the ground; a most convenient height for work. Not only is the board sufficiently clamped by this means, but the whole edifice, tripod and board, will be found to be so rigidly joined together as to permit of its being carried from place to place with the greatest ease, holding it by any one of the pickets or legs. Of course this obviates any delay which would be entailed by setting up such an implement anew whenever the sketcher changed his position.

The process of "setting" the board is performed by simply

turning it gently until the compass is seen to coincide with the magnetic meridian ruled on the sketch, or until the sight-vane

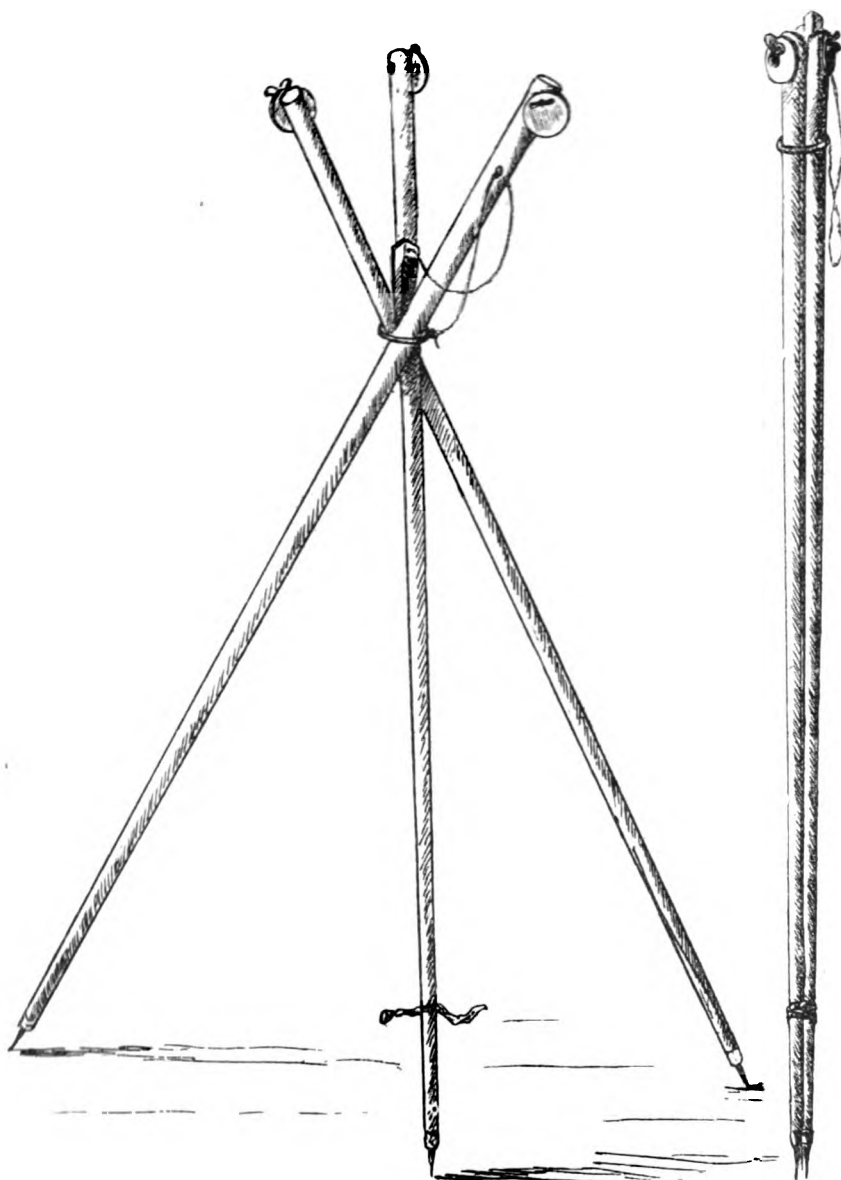


FIG. 6.

FIG. 7.

coincides with the last station. The downward pressure exerted by the cord on the three points of support will be found to

clamp the board with sufficient force to prevent it from shifting.

The weight of such a tripod in its lightest form is only 1 lb. 2 oz., which, with a rolling board 1 ft. square, gives a total weight of only 2 lbs. 2 oz. A larger and stronger pattern weighs 2 lbs., and

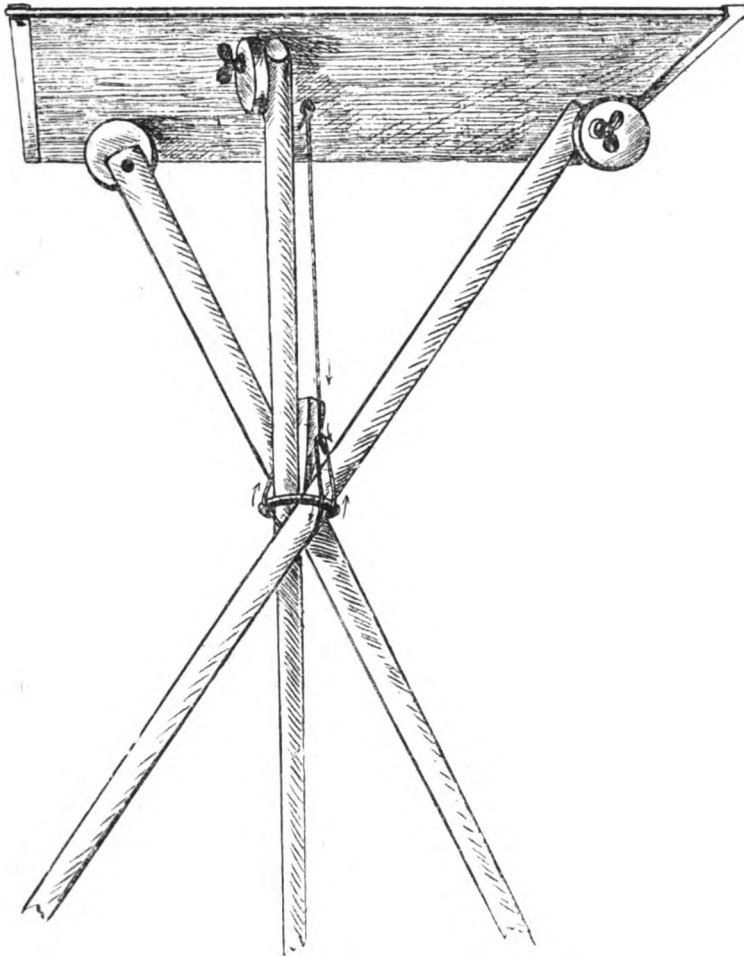


FIG. 8.

this used with a larger folding board 15 inches square, weighing 2 lbs., forms a solid plane table capable of turning out first-class work.

The ingenious inventor of this tripod claims that it can be used as a rifle-rest for directing fire by night on any desired point.

It is fitted with a loop and wire for the purpose of rigidly fixing a rifle on it. It certainly makes a capital rest for a telescope, either for signalling or musketry purposes, and the pickets separately form most excellent points for range-finding, and like all tripods it can be used for a variety of other useful purposes, especially in camp life, or on any expedition in a wild country.

I would especially recommend this tripod to all those who have done enough military sketching to have found out the aggravating points of the prismatic compass, and only want a little more confidence in their own powers to discard that instrument, and take to sketching with a pocket compass. Such men may very naturally object to spending several pounds on a highly finished plane table, no matter how portable in form, but on the other hand, if

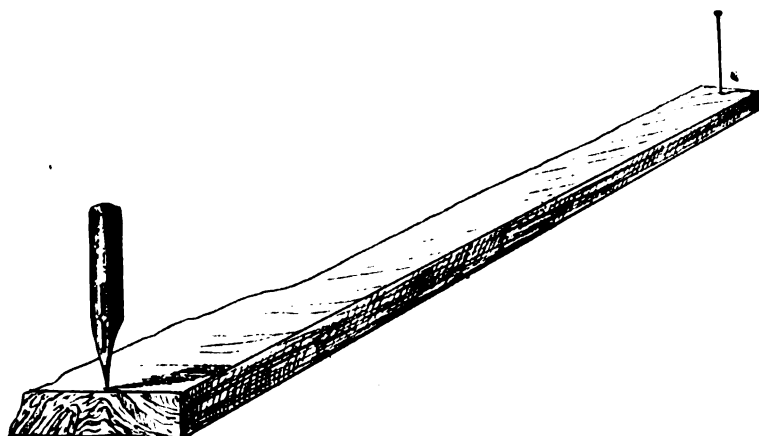


FIG. 9.

they once found out that for a few shillings they could obtain a tripod such as I describe, upon which they could lay their board, and thus derive all the benefits obtainable from a plane table, I am certain that they would never use a prismatic compass again.

To those who may object to having such an article as a stick 4 feet in length, and weighing 18 ounces, it may be said that a man who really wanted one could always have it strapped to his kit-bag, and that when carried in the hand it makes a capital walking stick. Of course it can be reduced to the height of an ordinary stick, and would then form an equally effective plane table tripod for those who did not mind exercising the muscles of their backs.

Perhaps one of the best points of the tripod, is the ease with

which it would be possible to extemporize one on service out of any existing materials, working on precisely the same lines as already indicated. A plane table top can be readily made by any carpenter, and should be constructed so as not to warp. The best way to ensure this is to fix wood clamps about 2 inches wide, tenoned through, at either end.

Failing a carpenter being available to make a board, the top of a packing case of any convenient size, such as a small biscuit box, will be found to do very well. A couple of strips of wood should in this case be nailed across the ends to prevent its warping. A hole should be bored through the centre of the board, and a bit of stout string run through it and stoppered on the upper side with a thumb knot, which should be of course counter-sunk in the board so as not to cause an uneven surface.

The tripod can be formed out of any straight pieces of wood; a ring or strap will hold these together, and the eccentric discs can be made of wood or leather, and secured by wooden pegs. Good rough discs of tin can be cut out of a marmalade pot or sardine box. At the time of writing this I have a most excellent tripod made of three rough bits of wood; the ring encircling them is from an old head-collar, and the eccentric discs are cut from the end of an old bit of harness, whilst the pegs are of hard wood, and made out of a pen-holder. Many other odds and ends would doubtless do just as well, and when once the principle of the tripod is understood, anybody, with a little trouble, could make a rough one on similar lines capable of performing good service.

A sight-vane ruler can be easily made out of any straight-edged piece of wood, such as a slice off the edge of a packing-case lid.

The edge which appeared to be cut straight (probably the outer edge) would be used for taking observations, and the back-sight and fore-sight fixed at equal distances from it. For an extemporized back-sight, nothing can compare to a good steel pen with a fine slit and aperture in it; the foresight is best made with a pin. With such a sight-vane ruler excellent and accurate work can be executed (see Fig. 9).

Enough has been said to prove that a rough plane table can be easily made by those who want such an article, and that those who do not fancy the trouble of making their own tables can provide themselves with them, made so as to be as portable as can be desired.

To recapitulate, a man who can sketch on a plane table can sketch with an extemporized board and a tripod, and *vice versâ*,

and in any case, if no tripod be at hand, he can extemporize one, or, failing that, can rest his board on a bank or rail, and work on the same principle as with the plane table, as fully described in Parts II., V., and VI.

The grand point, and the one that should not be lost sight of, is that whether plane-table stand, tripod, bank, railing, or mother earth be used as a support for the board, the process of sketching always remains the same, and it is a process which has been proved far and wide, and acknowledged by all who have had any real experience of rapid military sketching to be the only true method, since it is nothing more nor less than doing what every good artist does—namely, studying his model and drawing from the life, and not from his imagination.



Scientific and Humane Horse-Taming;

OR, BRAIN *VERSUS* MUSCLE.

By W. A. KERR, V.C.



RECENT writer on that important and attractive subject "Our Horses," lays down the following excellent maxims in connection with man's dealings with the equine races:—"Never meet the horse on his own ground; never exhibit any brutal temper; never give him blow for blow, nor push for push, nor pull for pull. Avoid any contest in which you must, or even may be, beaten, and the horse will soon learn to look upon you as omnipotent, and will never think of measuring any of his powers against yours." Would that we could instil these great principles into the minds of the genus "breaker," the man to whom most of the accidents caused by unruly and timid horses are mainly due, and whose creed is to "fight it out" with the colt. We read of marvellous performances on the part of the Gauchos of South America, who, setting aside all the ordinary canons of action, are credited by Basil Hall and others with such deft handling of the lasso as to be able to throw it round the hind legs of the wild horse (or rather round those of the descendants of the tame horse escaped from captivity—for there is no wild horse) when in full career, and to bring the poor brute by a sudden jerk violently to the ground. Before the struggling, half-dazed animal can recover from the shock—such a shock as would break most of our horses' backs on that hard ground, for a certainty knock the point of the hip off—the rider dismounts and muffles up the prostrate animal's head in his poncho. One of those break-jaw, cruel bits of the country is then forced into the captive's mouth; a saddle is strapped on his back, into which the captor speedily gets; the poncho is removed, and the astonished mustang struggling to his legs, finds himself bestridden by some strange being which, in his wild alarm, he forthwith proceeds to disencumber himself of. All

his efforts are in vain, the Gaucho is "encorpsed and demi-natured with the brave beast," and at last, wearied with his efforts, streaming with sweat at every pore, trembling with fear, and utterly defeated, this horse of the Peruvian and Mexican plains gives up the contest, becomes man's obedient servant, and is soon trained to lend his whole speed and strength in the capture of his former companions. So the story goes, and it is given for what it is worth. The expressive Yankee word "bunkum" best describes this Peter Parley nursery tale of new-world brutality. To those who have experience with horses, tame, or in a state of freedom, the whole story smacks of Munchausen. How is the mustang, unused to carry some ten or twelve stone, or more, and other *impedimenta*, to face a sharp powerful bit, and to gallop down his riderless bare-backed brethren who from foalhood have daily scoured the vast plains, and are in racing parlance "fit to fly"? The lasso feat is simply an impossibility. How is the struggling horse, whose instinct is to strike out with his fore feet like a prize-fighter, bitted and bridled, how is he held down during the saddling and girthing process? Were these travellers' yarns true, and the half-savage Gaucho able to perform miracles, there is nothing in this system worthy of imitation, for the animals broken in such hot haste by means of brutal treatment, with horridly mangled sides and mouths, are cowed and uncertain as to temper, unsafe to ride, and to be kept in subjection require such an amount of constant hard work as speedily uses them up. It may be safely said that the horses of South America are the worst broken in the world, those of Australia coming next. On these latter nervous, untaught, ill-used brutes are our European troops in India mounted.

To those of *stable* mind, one of the most attractive lounges of the London season has been the Duke of Wellington's Riding School at Knightsbridge, which Mr. Sydney Galvayne has converted into the High School of the tamer's art. Many there are that graduate thereat, and we hope to see the professor's theoretical and practical teaching enforced as part and parcel of cavalry and artillery instruction. Hailing from Australia, Mr. Galvayne was not slow to observe and make a note of the many errors into which the Colonials have fallen, and long with varied experience afforded opportunities for working out a system of education and control which appears to meet every requirement.

Undoubtedly Rarey did much in banishing many of the horse's groundless fears and unnecessary timidity, but much of his success was due to the individual's eye, courage, inflexibility of will, and

experience. In treating a kicker, for instance, the American tamer counselled the free use of the whip on the hind legs, a proceeding in direct opposition to his tenets. Again, all his followers were taught to handle the colt in a manner calculated to necessitate, in the case of a vicious or high-couraged youngster, a struggle.

The victor over that demon Cruiser, who appeared to exercise a sort of magnetic influence over his subjects, came, saw, and conquered, but left no mark behind him. Our professional breakers failed to "catch on" to his teaching, and the senseless system of their ancestors is still with us. A colt can hardly be broken too young. At an early age he, like children, is most impressionable. The Arab saying, "The lessons of infancy are engraved upon stone, the lessons of ripe age pass away like birds' nests" is accentuated in the case of the foal. We so-called lords of creation are apt to forget, or are ignorant of, the remarkable peculiarities of instinct and temperament with which the Great Creator has endowed the horse. As with us, so with him, we find the nervous, fibrous, sanguine, and lymphatic, each demanding a distinct treatment. Naturally timid and impulsive, of marked gregarious nature, possessed of acute powers of hearing, vision, taste, smell, and touch—his upper lip is as sensitive as the elephant's trunk—retentive of memory, so that a road once travelled is never forgotten, and the far-distant home reached, even through the ever-shifting sands of the trackless desert, and in some respects of even keener perceptions than man, we thoughtlessly treat him as a mere brute beast whose faults are to be corrected only by whip and spur, by volleys of red-hot profanity, and by punishing a highly sensitive mouth.

Mr. Galvayne can, as in the case of a deadly dangerous savage such as Mr. S. Fyson's man-eater Shire stallion, that, from being quite unapproachable, had to be fed through a hole in the wall, exercise stern and powerful though humane measures. What these are would be unfair to the operator to make the readers of the *Illustrated Naval and Military Magazine* a present of. The class fees run from one to two guineas, and the money is well laid out. His book, *The Horse: its Taming and Training*, is a complete manual of the Galvayne system, and from this illustrated work much information may be gleaned. The basis upon which the author relies for success, and upon which his method is founded, is the thorough subjection, by humane treatment, of the colt by always being master of the situation, and by a thorough and complete education of the senses of sight, hearing, and feeling. The animal's original sin is exorcised by gentle correction, followed by

kind words and caresses. No man can be thoroughly *en rapport* with the horse who is not master of the language he understands, and so good and discriminating is his ear that the meaning of many words can be imparted by a patient instructor. This indefinable influence the professor makes much of. To illustrate this sense of hearing and the lasting impression left by a kind master's voice, Budd Doble's, the famous reinsman, anecdote of Goldsmith Maid, the grand trotter of the United States, and Old Charlie, her attendant, will bear re-telling. The faithful aged groom had first place in the mare's affections; and when in her twenty-first year, after many a campaign crowned with laurels, she quitted the track for the stud, in her retirement, she developed a very irritable temper, keeping all the farm servants at a respectful distance. At the end of two years Old Charlie went down to Trenton to see the Maid and her colt. To the warning stories of her viciousness the old man returned a dubious smile. Going to a corner of the paddock where the mare could not possibly see him, he called her by her pet name, "Mamie." The change that came over the Maid on hearing the familiar kindly voice was electric. She pricked her ears, whinnied with delight, and began pacing restlessly up and down to discover the whereabouts of her old mate. When he came from his hiding she was as pleased to meet him as, in Biblical days, the sorrowing sire was depicted as yearning after his prodigal son. Mamie seemed to call his attention to her foal, and when Old Charlie departed, looked after him with a longing, lingering gaze. After he had gone some distance, she seemed to think that perhaps he was again leaving her for good; and so, after a moment's hesitation, the old campaigner started after him, leaving her colt behind, and it was only when she was caught and haltered that she would return. Mr. Galvayne confines his usage of words to clear, quietly-uttered commands such as do not confuse the pupil or instil fear. His manner of throwing horses differs entirely from all previous methods; it is, however, equally effective and far less dangerous.

Particular attention is directed to biting and mouthing, a process which, as at present conducted, makes the sensitive mouth sore, ultimately producing a hard, dead mouth, resulting, in many instances, in the rider being overpowered and run away with.

The present lengthy curriculum of breaking-in to learn the guides of bit and rein, which creates a desire on the part of the colt to fight the bit, or "fight for his head," as it is termed, is expedited and completed; the pupil rapidly acquires the habit and

inclination to obey the slightest indication, and, unless subsequently deadened by the "hands of iron," may be safely and pleasantly ridden with a pack-thread. How often does it happen that the light hand of a woman softens and controls, with a kind of magic touch, the temper of the most fretful steed, when the moment a man gets on his back, the same animal becomes an ungovernable brute. "Making a mouth" is the trainer's difficulty, and the majority fail thereat. Without a good mouth there can be no manners, and manners mean money. A horse may be perfect as to symmetry, "a flippant sh stepper and a powerful draft," handsome and full of quality and finish as Rosicrucian or Petrarch, but, lacking manners, he is of comparative little market value. The instructions on the way to lead a horse are full of common-sense, and invaluable. The one-sided mouth cannot result from the professor's system, and that alone is one material point gained. Dentition is another subject ably dealt with, and there is no denying the fact that its exponent reads the horse's age from foalhood up to the longest tenure of life with absolute correctness. It is no mere guess-work, and is daily illustrated to complete demonstration on one hundred pair of jaws. This is a shot between wind and water for the villainous copers and unscrupulous dealers.

We have a School of Artillery and another of Musketry, why not one of Equitation? The Cavalry Depôt at Maidstone, now useless, might advantageously be sold, as might that at Canterbury. With the proceeds of these sales we could establish Schools of Equitation, one in Yorkshire, the other at the Curragh, Kildare, where all the remounts for the army might be thoroughly broken in by experts trained to the humane, expeditious, permanent, and perfect Galvayne system. To all who have an interest in horseflesh we say, go to Knightsbridge, mark, learn, and inwardly digest.



Old Bluff's Shot.

A REMINISCENCE OF NAVAL LIFE AND CHARACTER IN THE OLD TIMES.

By "NAVALIS."



FOR long after the close of the great naval wars at the beginning of the present century, which left England in the proud position of mistress of the seas, there was no regularly organized system of naval gunnery. The guns were sent on board ship by the Ordnance Department; and each captain had his crew drilled to work them in any way that he thought best. The pointing was always performed—beyond “point blank range”—by aiming a certain distance above the object intended to be hit, which, at the close quarters at which many great naval actions were fought, did not make much final difference; but as larger guns and the use of shells became general, combatants kept at a more respectful distance from each other, and the old method of aiming was found to be uncertain and inadequate.

But naval gunnery, quickly assuming the position and dignity of a science, remedied the defect by the introduction of tangent sights, or graduated scales of metal fixed to the gun, which enabled one to point directly at a distant object, instead of above it.

Our reminiscence belongs to the time when a staff of trained officers and men from *H.M.S. Excellent*, the newly established gunnery-ship at Portsmouth, was just beginning to be recognized as an indispensable item of every man-of-war's complement.

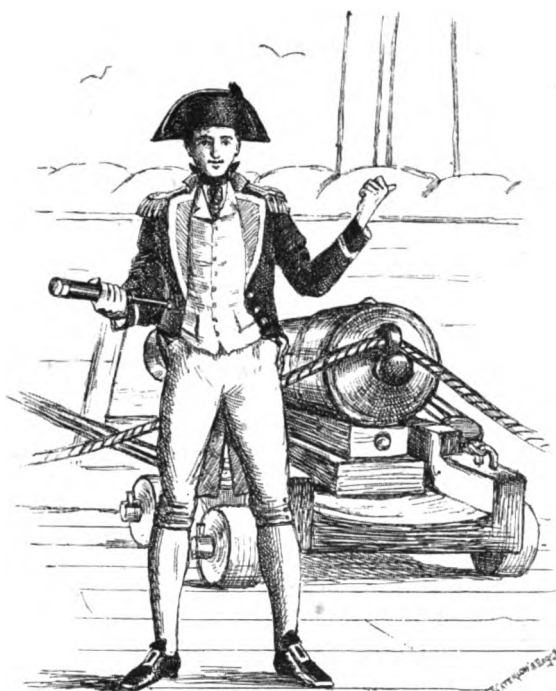
The old gunner and his mates, of whom we read ever since England had a navy, were obliged either to retire entirely from the scene, or, pocketing their experiences, to go through a “course” in the gunnery-ship.

“The Excellents,” and the changes, innovations and improve-

ments which they brought with them, were by no means regarded favourably by the older generation afloat. They considered them as upstarts, who had come to supersede or unnecessarily to interfere with everything that had answered so well for so long, and to assert their superiority by display of their learning and supposed superior professional attainments. They were ironically alluded to as "educated men"; "men as knows rajus (radius)," &c.

Now how all is changed!

We may lament the wooden walls of old England, and sigh



THE "GOOD OLD STYLE."

after the saucy craft which used to "walk the waters like a thing of life," but we must gracefully succumb to the inevitable, and seek for the romance of sea life, if we want it, as it lies embalmed in the pages of Marryat or in our own recollections. We need not trouble to go afloat to find it, for there it lies buried in coal bunkers, crushed under revolving turrets, and exploded by torpedoes. The Lieutenant Radius of the following story is the ruling power afloat now, who has it all his own way.

He may not, it is true, feel exactly comfortable if requested to

"put the ship about," nor may his ideas of "picking up a berth under sail" be very clearly defined; but he handles with facility guns of a size which in former days never entered into the wildest speculations of the naval imagination; and should anything unfortunately go wrong with your Rhumkorf's coil, he will put it to rights for you with pleasure, and work out the resistance of its primary and secondary coils to the five-hundredth part of an ohm!

In the year 184— Mr. Augustus Radius filled the important post of "gunnery lieutenant" on board Her Majesty's frigate *Berwick*, 36 guns, engaged as "senior officer's ship" in the suppression of slave trade on a certain part of the coast of Africa.

Captain Bulleigh, a portly man of fifty-five, quite one of the "old school," commanded the *Berwick*, whose comparatively large size and indifferent sailing qualities rendered her almost useless to chase clipper brigs built on purpose for slaving. She never ought to have been sent out; but it was "her turn" to go to sea; and in those days fewer questions by far were asked in the House than now. Honourable members were not perpetually "wanting to know" about everything. "Our own correspondent" had not yet appeared on the scene, ruthlessly to expose everything that took place, besides, it may be added, many other things that never did take place. There was no "daily" or any other sort of telegraph worth mentioning (if that can now be realised), and public departments, including the Admiralty, might go on doing all sorts of curious and blundering things without anyone knowing anything at all about it.

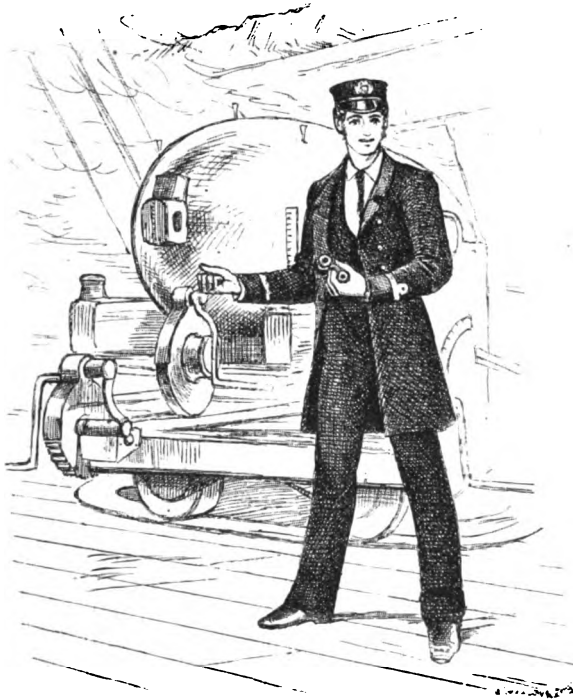
Mr. Radius was a man of five-and-twenty, with a spare habit and quick eye, active, zealous, and hard working; but bearing on his countenance a certain dejected appearance, as if he had secret sorrow.

I have a secret sorrow here,
A grief I'll ne'er impart;
It breathes no sigh, it sheds no tear,
But it consumes my heart.

And he had. Poor Mr. Radius had spent eighteen months on board H.M. gunnery-ship *Excellent* at Portsmouth. During the whole of that time, for six mornings out of every week, he had worked hard at practical, for six afternoons, and sometimes well on into night, at theoretical gunnery, until he had become so thoroughly saturated and filled to repletion with gunnery and its allies, as small-arm, field-piece, rocket, cutlass, and other drills; so stuffed, so to speak, with all these, that he saw, heard, thought, or spoke about little else; and Chaffer, the *Berwick's* fourth lieu-

tenant, used jocularly to remark that it was dangerous to run up against him for fear of spilling some gunnery. He had insensibly got into the habit of mentally dividing mankind—and especially those who go down to the sea in ships—into two great classes, those who had “passed the *Excellent*,” and those who had not.

Everything that he did was to the refrain of “the accustomed beat of the drum,” and he had come to regard the service as just a great theatre for the exercise of the talents of the *Excellents*,



“A man as knows *rajus*.”

and H.M.S. *Berwick* for his own in particular. When, therefore, he joined that frigate, the whole of whose officers and crew, being to his eye, so much raw material to be worked up by himself and staff, and found that he was hardly allowed to do anything, was treated very nearly as if he were an ordinary watch-keeping lieutenant; that drills were ordered very often without even consulting him; that his sacred “Instructions” and “Regulations” were cruelly disregarded; that liberties were taken with the established gun exercises which made his hair stand on end to think of; that

when he attempted to advise or expostulate, he was snubbed or refused, that there was altogether a very marked want of appreciation of the scientific corps; when all this is considered, it will not be thought strange that the poor man looked rather unhappy. Now, non-realization of ideals is one of the life lessons that we all have to learn in some way or the other; and bitterly did our *Excellent* hero contrast in his mind his own ideal of a gunnery officer's position with the reality as he found it. He persevered, however, in doing what he could, seldom being seen without a book, or books under his arm, "gunnery books" and "quarter-bills;" they were, in fact, insignia of his office, which he secretly believed to be by far the most important in the ship; and he went about all day "drilling quarters" when he was allowed, doing all sorts of things connected with his department, and having secret converse with Mr. Fuzecap, the gunner, in a corner on the main deck. The general subject of their deliberations was supposed to be reciprocal lamentations over the miserably bad gunnery order of the ship, because the captain and first lieutenant would not allow sufficient gun drills to take place, and because they systematically "worked against" the *Excellent* authorities.

"How shall we ever pass inspection creditably with only two days a week for the big guns?" said Radius.

"And only two for the cutlass men," said the gunner—that was his department—"and often none at all."

"And no disparting instruction," continued Radius.

"And no magazine exercise for a very lengthened period," pompously pursued Fuzecap, who never lost the opportunity of a long word.

"Of course I keep a register of all the drills that take place," said Radius, significantly tapping a stoutly bound volume which he produced from his pocket. This was his official journal; let us take the liberty of glancing at a page.

Monday, July 1.—After main deck quarters: only half-an-hour's drill, because the Morning. deck was wanted to measure canvas on. I urged on the 1st lieutenant that there was plenty of room forward; but he ordered me to secure the guns immediately.

Afternoon. First division of cutlass-men to drill. Several away, fitting boats' gear and painting. Sent to 1st lieutenant to ask if they might come. Answer, "Not to-day."

Tuesday, 2.—Foremost main deck quarters: 1st lieutenant sent to say, give only a little dry drill; don't cast loose, as the consul and his grandmother are coming off to see the ship, and the decks must be kept clean.

Afternoon. Cutlass drill put off, because of the captain's luncheon party

Wednesday, 3.—Upper deck quarters. It will be impossible to work the upper deck guns properly, because the captain won't allow the sweep pieces to be altered.

Afternoon. Midshipmen to gun drill. Gunner drilled then, I being so busy with the new quarter bill, which I cannot make out properly, for the 1st lieutenant won't leave the small arms properly numbered. Mr. F. says that the young gentlemen were very troublesome and insubordinate, and he reported Mr. Higgle and Mr. Piggle, but they were let off.

Thursday.—Small-arm men ought to have been drilled, but the captain sent all the boats away for a sailing match. This is the fourth Thursday running without the proper small-arm drill.

Afternoon. Disparting for the young gentlemen, but such constant interruption that nothing was learned. Of course none of them will ever pass.

Friday.—General quarters. Think the custom of allowing each lieutenant to drill his own quarters is a most injurious one, and fatal to uniformity. I represented this to the captain, who said, rather louder than was agreeable, "Do you suppose that there were any gunnery officers at Trafalgar?"

Saturday.—General cleaning day. The 1st lieutenant continues to order the steps of the gun carriages to be holystoned. The gunner and I have repeatedly represented to him that it is against the Instructions.

No regular day for field-piece drill yet. I have asked for one six times, but the captain says that they got on very well without field-piece drill when he was a lieutenant.

That is a leaf out of Mr. Radius's semi-official journal; and he keeps it thus circumstantially, because he has ideas of justifying himself at the great day of inspection, if the *Berwick* is found to be "slummy" when she goes to Portsmouth to be paid off. As it is impossible to rebel openly against the authority of her captain and first lieutenant, he has much secret satisfaction in thus pickling a rod, as it were, for their backs. It acts beneficially, too, as a sort of safety-valve, by which much of his wrath and discontent can be got rid of without loss of dignity or position.

There was a good deal of solace in retiring to his cabin to "book" his superiors, Mr. Radius found; indeed, sometimes when he felt in a better humour than usual towards those officials, he really pitied them when he remembered what was registered against them, and resolved not to produce the worst parts.

Poor Mr. Radius! Many Radii have kept the same sort of books, but how rarely have they been asked for; how rarely produced. When the *Berwick* was paid off, there was no compulsory retirement scheme, and the *Navy List* was clogged with hundreds of old officers who stuck to their posts with valour and pertinacity worthy of true British tars. The inspection was performed by

Admiral Sir John Auld Buster, K.H., who had served his country well in his day, but had been so long on shore that he was quite alarmed at the idea of guns being fired off close to him ; so the gunnery manœuvres were as trivial as possible.

At the time when our two gunnery worthies were holding their little colloquy on the main-deck, as lately narrated, the *Berwick* was forging lazily ahead under easy sail, thirty miles or so off shore.

The gallant frigate had never captured a slaver, and scarcely expected—with her bluff bows—to be able to do so, unless she could surprise one with her boats some lucky day or night. Still, the excitement of a chase was occasionally afforded ; and if it came to nothing, it at least supplied the crew a chance of knocking the yards and sails about a bit, much to Mr. Smart, the first lieutenant's satisfaction, who considered that proficiency in sail-drill was, in conjunction with holystoning decks, the principal end of a sailor's professional existence.

Well, she forged along. It was near noon ; the "cooks" of each mess (so called because they do not cook anything, but merely bring down to their respective messes what someone else has cooked) had prepared each mess-table with the pork and pea-soup ; the master, naval instructor, and young gentlemen were abaft "taking the sun," when Jem Lammie, the masthead man, spied a sail. Now that sail had been in sight for at least twenty minutes, but Jem had been lazily kicking his shoeless heels against the "belly" of the foretopsail, and had been thinking more about his "relief" than of exerting his powers of vision.

The approved method in these cases, as we gather from most sea stories, the nautical drama, and novels, is for the masthead-man to call out lustily in a general stagy sort of way, "Sail ho !" (the "ho" being quite essential) to which the officer of the watch replies "Whither away ?" and the captain, raising his speaking-trumpet, which he is never on any account without, roars loudly, "Set all sail low and aloft !"

But our Lammie, not being a character in a novel, merely reported what he saw in the usual way—

"Sail on the lee beam, Sir," to the midshipman of the fore-castle.

"Sail on the lee beam, Sir," echoed that functionary.

"Very well," replied the officer of the watch. "Signalman, go aloft and make her out."

Soon the masthead-man felt the throbbing of the foretopmast.

rigging, by which he knew that the signalman was on his way up.

In a few seconds more the scrutiny through the glass began. Meantime, the strange sail became the object of much interest to the young gentlemen, who scented an opportunity of shirking the operation known as "working out the latitude" from the altitude of the sun, which, as we have seen, they were engaged in taking. To those who at those times were *in statu pupillari*, "correct latitude before you go down to dinner" used to be the rule.

Midshipmen dined at 12 o'clock in those days, and knew not the taste of "Fizz."

"A brig under all sail, hull down, Sir!" was quickly the report, not only from the signalman, but from several officers who had raced aloft with their glasses.

"Hands trim and make sail!" promptly cried Captain Bulleigh. "Helm up, quarter-master! Royals and starboard stunsails, Mr. Smart."

"Ay, ay, Sir."

The pipes and cries of the boatswain and his mates resound through the ship.

"Hands trim and make sail!"

In two minutes—for the *Berwick* was in good order—the deck was alive, everyone at his post.

"Way aloft—man weather braces!"

"Now, Mr. Moony," roared the first lieutenant, "don't look about you. Marines to the fore-brace, and take your hands out of your pockets, Sir!"

Mr. Moony was a tall, slim, rather good-looking young midshipman of 16, with a pensive countenance and disposition, much given to reveries, or, as the first lieutenant more roughly expressed it, "always mooning about." Doubtless he would have been called "*Il Penseroso*" by his messmates, had any of them known what that meant; but no, on second thoughts, that could scarcely have been, for had not Orlop, the second master, forbidden the use of any word of more than three syllables in the berth?

"None of your confounded *line-of-battle ships* here," he had coarsely thundered out at poor Moony, who had ventured one day on the incautious use of the word "tautology."

Orlop's occupation was chiefly in the lower regions of the ship, or was supposed to be. He used to keep an old jacket spotted with white-wash at hand to slip on if suddenly sent for. That was designed to convey the impression to those who were verdant

enough to be taken in, that Orlop had just emerged from his sphere of labour in the lowest depths of the hold, and to produce the remark, "Hard-working fellow, Orlop; always doing something." This, however, is a digression.

Poor Moony was at that inconvenient transition stage when, in some frames, arms and legs seem too long for body, and can never be comfortably disposed of; so it was a real relief to him to hide his embarrassed limb in a friendly pocket, and positively cruel to make him pull it out before all the ship's company. Out it came, though, in a twinkling; and its owner, who being a retiring sort of boy, conscious of his awkwardness, and not liking to be singled out by name in this way, blushed, got entangled with arms and legs, then dexterously altered his position so as to interpose a good, fat marine between himself and the eagle eye of Smart.

"Nearly ready with that maintopmast stunsail, Mr. Radius?" (who, being third lieutenant, superintended at the gangway).

"All ready, Sir."

"Haul taut! Trice up! Rig out! Sway!"

And the men on the halyards charged along the deck; but the sail, instead of gracefully swelling into a huge wind-bag, became a confusion of tangled ropes and canvas.

"Waik back!" thundered Smart. "Gear bent foul; always the way. Who bent the gear, Mr. Radius?"

"One of the seamen gunners, Sir."

"Ah! don't wonder then. Now, gather in the sail, and send a sailor to rebend the gear. Your educated men again, Sir," sotto voce to the captain, who nodded depreciatingly, and pursed up his lips, as if it were indeed a very serious look-out for everybody to have these fellows aboard.

At this tremendously sarcastic broadside of Smart's in the direction of the gunnery party, whose peculiar province in making sail, as everyone knows, is this unlucky studding sail, there was a general glance towards the weather gangway, where poor Radius stood conspicuous. There was no appeal, however; even the melancholy satisfaction of booking the insult was not in this instance open to him, for "making sail" has nothing to do with gunnery duties. On such occasions, Radius lost his distinctive character, and became a "mere common lieutenant," as he once—his tongue getting the better of his judgment—was heard to remark; of which he never heard the last.

The recalcitrant sail being at length set, the ropes were coiled down, and the men stood silently waiting for the "pipe to dinner."

"Mainyard there!" hailed the gunner from the booms, but not too loud, "you're very dillytory up there; equalize that lee-gear, and coil down them jiggers transversely across the yard."

"Hark at that old fool, Fuzecap," whispered Higgle to Piggle.

"No talking, young gentlemen," from the first lieutenant.

Two hours afterwards, to everybody's astonishment, the frigate had gained sufficiently on the brig to admit of fire being opened from the bow guns, and during the next hour many shots were discharged without success.

The brig was apparently an indifferent sailer; but unless one of her masts could be knocked away before she reached the shoal water which guarded the approach to the inlet or river for which she was evidently making, she would be able to cross it and escape.

The long bow gun had been fired again and again by the seamen gunners. The captain was on the head gratings, glass in hand, anxiously watching the effects of the shots. Mr. Radius had fired the last with his own hands, but with no better success than his satellites.

The captain's eye wandered inquiringly about over the group collected forward, and resting at last on a grey-headed old salt, he called out, "Let Bluff try a shot."

Now Bluff was a character. He ought to have earned his pension long ago, but having taken French leave to quit a ship which he didn't like, after he had made up more than fifteen years' service, had to serve all his time over again before he could become entitled to it. His early associations were with quite another generation of seamen, and he looked with no favourable eye on the *Excellent* and all who came from her. He considered that they were a favoured and conceited "caste"; that they gave themselves airs of self-superiority; were fond of absurd displays of dimly-understood, and it must be confessed, too often badly-pronounced long words; that they knew very little about sailing; that they were totally unnecessary; and that their very presence was a reproach to the representatives of the good old times when so much magnificent service had been done without them. Now Captain Bulleigh secretly thought all that also, though it would not do to say so; and he had always a sympathetic corner in his heart for old Bluff since the day when he overheard this fragment of conversation.

Mr. Radius, angrily, "Why didn't you watch that shell?"

Bluff, touching his hat, with just a twinkle in his eye, "Please,

Sir, the gunner's mate was on the forecastle, and I don't understand nothing about the course of pro-jeck-tils."

The captain continued,

"Will you try a shot, Bluff?"

"If *you* please, Sir," answered he, baring his head.

"Well, come along; see what you can do."

"Werry good, Sir; and it won't be the fus' neither. I'll see if I can let a bit of daylight through that there dimity o' hern."

The old chap advanced, ejected, as a preparatory measure, a copious stream of tobacco juice exactly into the centre of the lee scupper, gazed at the gun for a few seconds as at an old friend, then smiling a grim smile of incredulous contempt at the tangent sight, nodded once or twice slowly and thoughtfully, and, turning towards the captain, said:

"You mus' fus' of all take off that there three-cornered thing, Sir, if you please; I ain't used to them things, and what's more I don't——"

Here Mr. Radius, who had been listening with impatient disgust, "Oh, this is nonsense, Sir—loss of time; you won't allow this, of course, Sir."

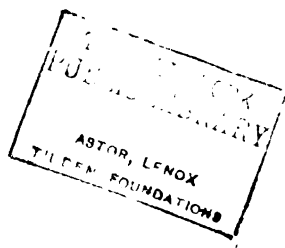
"Oh, let him have his own way, Mr. Radius," replied the captain, whose own idea of the principle of the sight was very faint, and who secretly grasped at the chance of humiliating the gunnery lieutenant and his band, whom he regarded at heart too often as a necessary evil, of which he was obliged to make the best; "let him have his own way. Take off the sight, Mr. Fuze-cap."

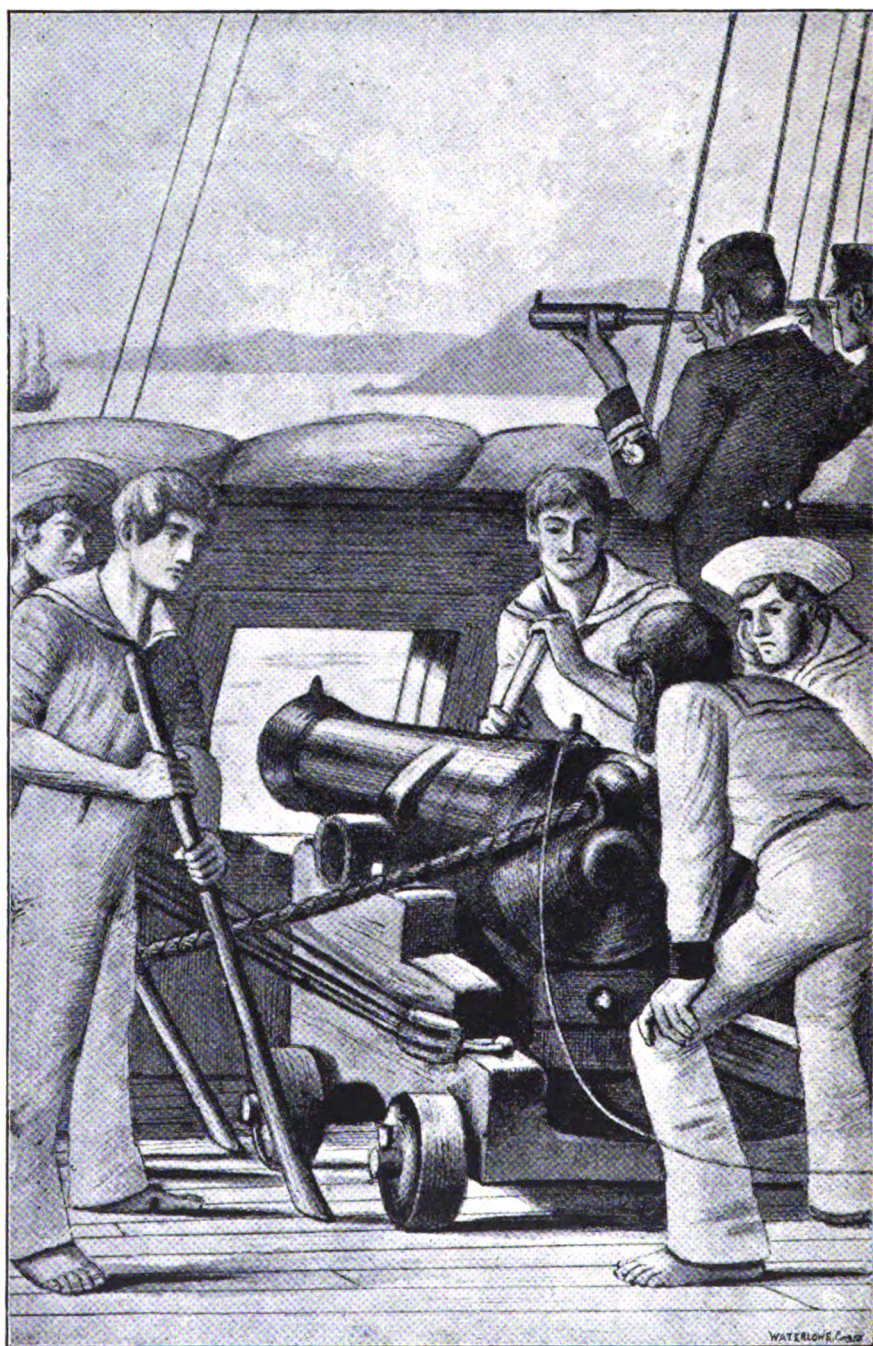
"Very good, Sir," answered the gunner, with a great show of promptness, placing his fingers on the screws; "but beg your pardon, Sir, strict orders against it—page 243, section 21, of my Instructions."

"Confound your Instructions! Obey orders, Sir," roared the captain; "those are your Instructions. Upon my soul, the service is going to the devil; one can't give an order now-a-days without having Instructions rammed down his throat; a deuced sight too much book learning. Off with it, Sir."

The unfortunate little gunner, frightened out of his wits—for the captain of a man-of-war is, or at all events was, a *very* great man on board his own ship—had the sight off in a twinkling, especially as he did not find the head of his department coming to his rescue.

Meantime quite a crowd had collected to see the fun. Higgle whispered to Piggie what an awfully jolly thing it would be if old





OLD BLUFF'S SHOT.

Bluff knocked a hole in the brig. Radius wouldn't bother them with the "Blue-Book"* after that.

Mr. Radius had retired to a little distance, and watched the proceedings with an air of gloom and disgust; deriving, however, a little internal comfort by the mental arrangement of the heads of a letter to Sir Thomas Capsquare, the captain of the *Excellent*, in which all these irregular proceedings should be detailed at length.

"Go on when you're ready, Bluff," continued the captain.

"Aye, aye, Sir. Muzzle, left—well. Helevate—steady with them 'andspikes—well. Ready."

At the last order the crew dropped the tackles, and the old sailor kept his eye steadily along the line of sight for a few seconds. Bang! The gun whizzed in, the loud rush of the shot was heard; up went all the officers' glasses to the eyes of their respective owners, the men crowded to the bow and craned their necks out of the main-deck ports, to see the effect of old Bluff's shot. The excitement was intense. Even Lounger, the marine officer, who generally passed most of the day in the gun-room stretched out upon four chairs, assumed a perpendicular attitude and came up to see the fun.

Radius glanced disdainfully out of a port-hole, his thumbs stuck into the arm-holes of his waistcoat.

A silence of four or five seconds was succeeded by a loud hum of applause, as the tall white column of canvas was seen to totter and fall a helpless wreck over the side.

"Maintopmast over the side, by Jove! Capital! What d'ye think of *that*, Mr. Radius? Ha! ha!" cried the captain, his face beaming with delight; and something like a cheer ran right round the ship.

Poor Mr. Radius turned very red, and did not answer. The brig had not been hit according to book, and therefore had not been, or ought not to have been, hit at all.

* * * *

That evening, after a prize crew had been put aboard the slaver, Higgle, whose first watch it was forward, heard old Bluff holding forth in this strain to a knot of sailors, who had crowded round him to talk over his exploit—

"Too much larnin' has sp'ilt you *Hexcellents*. That's the way we did it twenty year ago, afore people got so much better edicated than their neighbours, with their 'eds full o' rajus, and dispartses,

* Catechism of Naval Gunnery.

and tangentses, and all that sort of Matthew Mattix. It's lucky for hold England that they didn't send the schoolmaster afloat before the French was beat, to my mind."

The gun-room officers, exhilarated by the novel prospect of prize-money, ordered half-a-dozen of champagne, to commemorate the capture of the *Berwick's* first and (as it proved) only prize. Now the weather was cool, and the wine good, and everyone was in high spirits. For the time Radius had forgotten his woes, and even Smart became temporarily oblivious of the terrible dearth of sand and holystones that prevailed, and joined heartily in the conviviality. No naval mess ought to go a long cruise without a supply of champagne; it hath invaluable properties. It is often a most effective peace-maker. For instance, Lounger and Chaffer had a feud of six months' standing, and had not spoken, "except on service," during that period.

It arose in this way. One afternoon, in port, the gun-room was full of visitors. Chaffer crept up to the door of Lounger's cabin, and suddenly throwing it wide open, disclosed the young marine, who was rather a dandy, and strongly suspected of stays, in the act of parting his back hair by a cunningly contrived system of looking-glasses stuck upon the beams. The delight of the occupants of the gun-room was both uproarious and intense; but Lounger was deeply offended, and would not make it up till this night, when, amid good-humoured cheers, they clicked their glasses together, and allowed the recollection of the past to evaporate with the champagne bubbles.

So also, when someone proposed to ask the captain to come down and have a glass, there was no opposition—actually none! The significance of this simple statement will scarcely be appreciated by those who have never been shut up in a frigate's mess on a long voyage.

"Captain Bulleigh would be very happy," and down he came; more wine was opened, and the conversation was of the most amiable character.

The officer of the watch couldn't come, of course, but he peeped down the skylight, and, as soon as the captain's glass was safely filled, despatched a confidential quartermaster to the steward for his bottle, which Higgle helped him to discuss.

"Keep all the corks, steward," cried Smart; "I want 'em to rub the guns with."

"The gun that did the business ought to have 'em all, I think," observed Chaffer, to whose quarters it belonged.

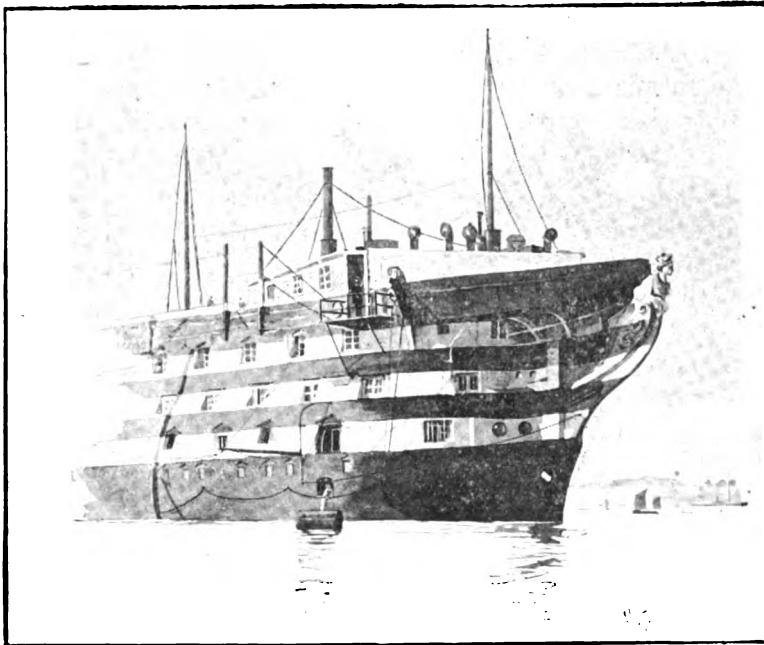
"The gun wasn't worth much before old Bluff came to it," urged the first, who intended all the corks for the quarter-deck quarters, which he commanded. "I think old Bluff ought to have a glass of champagne—with your permission, Sir," to the captain. "What say, messmates?"

"Certainly, certainly! Send for the old boy."

"Let's get up a subscription for him," somebody proposed.

"Very good idea—very good idea!"

Bluff had his champagne, and made his way back to the fore-castle highly delighted and considerably richer than he left it. It is very gratifying to be able to state that the subscription list was headed by Lieutenant Radius.



The Bulgarian Army.



IN the present unsettled condition of the Balkan peninsula, the following account of the Bulgarian army, which is extracted from the *Revista Armatei* (30th June), may prove serviceable to military officers, the more so that Roumania, being a close neighbour of the newly erected principality which may soon blossom into an independent kingdom, the information which its press affords is likely to be accurate and trustworthy. The author is an officer of the Roumanian Reserve, who has drawn his information from the Bulgarian Army Estimates and from inquiries made personally on the spot.

Territorial Division.

Bulgaria, with Eastern Roumelia, is divided into six military regions, which are sub-divided into four administrative districts, and each supplies a brigade of infantry, as follows :

1st Brigade Sophia.	4th Brigade Shumla.
2nd „ Widin.	5th „ Philippopolis.
3rd „ Rustchuk.	6th „ Slivno.

In time of peace there are no units of command higher than the brigade, but during the manœuvres of 1888 the army was distributed into four divisions :—

1. The Western division	Brigades Sophia and Widin.
2. The Eastern „	Brigades Shumla and Slivno.
3. The Rustchuk „	Brigade Rustchuk.
4. The Southern „	Brigade Philippopolis.

Infantry Officers.

There are 24 regiments, each with 2 battalions and 8 companies + 1 depot company. Both regiments and battalions are commanded by officers with the rank of major. Regiments are numbered consecutively, and bear in addition the name of some exalted per-

sonage or a territorial title. Thus the 1st Regiment is connected with the name of Prince Alexander of Battenberg; the 3rd with that of Widin; the 4th is the Plevna Regiment; the 6th that of Prince Ferdinand; the 9th, or the Princess Clementina's Regiment, hails from Philippopolis; the 14th is the Macedonian Regiment (a significant title in view of recent developments of Bulgarian diplomacy); the 22nd is known as the Thracian Regiment; the 23rd preserves the historic name of Shipka, and the 24th is the Black Sea Regiment. Each has 50 combatant officers on its rolls: 1 major in chief command, 1 in command of the recruiting depôt, 2 in command of battalions, 9 captains, and 19 lieutenants (of whom one is regimental adjutant and one paymaster); 18 sub-lieutenants (of whom two are battalion adjutants). Thus there should be 1,200 infantry officers in the Bulgarian army, of whom at the beginning of this year 150 sub-lieutenants were deficient, but were expected to pass out from the Military School on the 1st June last. Each regiment has also attached to it a surgeon, an assistant surgeon; a bandmaster, an armourer-sergeant, a master tailor, and an orderly-room clerk.

Cavalry Officers.

Four regiments of 4 squadrons and a depôt a-piece; also the Prince's personal escort. Each has a cadre of 25 combatant officers, viz. 1 major commanding, 1 second major, 4 squadron leaders (*chefs d'escadron*), 4 second captains, 1 adjutant, 1 paymaster, 6 lieutenants and sub-lieutenants. Each cavalry regiment bears on its rolls 1 surgeon, 1 regimental veterinary surgeon, a squadron veterinary surgeon, a bandmaster, and an armourer-sergeant.

Artillery Officers.

Six regiments of 4 batteries a-piece, and a section of Mountain Artillery; 2 siege batteries, and 2 parks. Each regiment is provided with 27 combatant officers, and each battery contains 4 guns; 1 major in chief command; 1 second major, 4 majors in command of batteries, 5 captains, 1 commandant of the mountain section, 7 lieutenants and 9 sub-lieutenants. Each regiment bears on its strength, a surgeon, 2 veterinary surgeons, an armourer-sergeant, and an orderly-room clerk.

Engineer Officers.

One regiment of 8 companies, with 1 major in command, 1 second major, 2 majors in command of battalions, 9 captains,

4 second captains, 11 lieutenants, and 19 sub-lieutenants. The 6 companies are allocated as follows: 4 companies of sappers, 1 of miners, 1 telegraph company, 1 railway company, 1 pontoon company, and 1 depot company. The disciplinary company is under the orders of the senior engineer officer.

The rank and file of the army number in peace:

Infantry	.	.	23,577	including N.C. Officers.
Cavalry	.	.	2,512	" " "
Artillery	.	.	4,010	" " "
Engineers	.	.	1,541	" " "
Orderlies	.	.	1,846	" " "
Total			33,886	
In addition, sailors			298	
			34,184	

These are the numbers charged for in the Budget, under the heading of "Provisions."

It must, however, be indicated that these figures are too high. For motives of economy, the infantry soldier is released from service after a year and a half in the ranks. The figure of 580 men per cavalry regiment is illusory. The writer believes that there are no more than from 80 to 90 horses per squadron, which would give a maximum of 360 per regiment with 400 men. Thus the Bulgarian cavalry, in all probability, numbers but 1,040 horses and 1,600 men. As regards the artillery also, the number indicated per regiment of 533 men appears too high. On a peace footing there are no more than 16 field and 2 mountain guns per regiment, without even a single battery being horsed. Therefore the estimate 533 appears to be excessive.

The Bulgarian infantry is armed throughout with the Berdan rifle; but the quantity of these weapons only just suffices for the peace establishment, since, deducting those lost in the war against Serbia in 1885, not more than about 25,000 or 30,000 remain. But at least 100,000 are required, since, besides the permanent infantry, at least 6 annual contingents would be called out in case of war, which would raise its numbers to 92,000, and then there would be no reserve of arms. The 30,000 Krnkas in store at Philippopolis would be distributed to volunteers and Macedonian irregulars, although, unfortunately, the Government held the stock of ammunition for these arms.

The infantry armament is being completed to a certain extent by orders of Männlicher rifles from Austria, but this step has only been resolved on owing to the impossibility at present of obtaining additional supplies of Berdans, to which the Bulgarians are accustomed. The 4,000 gendarmerie are armed with Martinis taken from the Turks during the last Russian war. The Bulgarian infantry is well trained—much better than the other arms—but the time spent with the colours is only 2 years, as a matter of fact, 18 months. Much time is devoted to the gymnastic training of recruits, more so than elsewhere, and this on account of their awkwardness, especially of those raised in the Sophia district. Much attention is also being directed to instruction in the use of the *Linnemann* spade, and the Bulgarians display great aptitude in this kind of work. This is combined with the practice of mimic attacks on the trenches which have been thrown up. Fire discipline is diligently enforced, and the soldiers are taught never to discharge their rifles without taking careful aim at some distant object. Cavalry charges are frequently delivered on the infantry when manœuvring in the field. In a word, the Bulgarian infantry may be described as a solid and excellent body of troops, both for purposes of attack and of defence.

As regards cavalry, Bulgaria has to encounter the same difficulties as other small States whose territory does not abound with horses, and who do not possess sufficient pecuniary means; to this may be added a total absence of traditions, a distaste for horses, and an erroneous idea that one may be successful in the field without sufficient cavalry. At Slivnitza and Pirot the Bulgarian army had only 14 squadrons, and so were unable to pursue the Servians, though the ground was favourable for a distance of 5 kilometres. Thus the defeated army was in a position to rally and reform its shattered ranks after a single day's march. At present their cavalry, consisting of 17 squadrons, could be supported by no more than 3 squadrons of gendarmes in the event of mobilization, whence it is plain that an enterprising enemy disposing of numerous squadrons could interfere seriously with that operation. Cavalry officers are not so well trained as their infantry comrades; there is no riding taught in the Military School, so that the young sub-lieutenant commences the course only on joining his regiment. Service with the colours lasts three years in this branch of the service.

The Artillery is better trained than the Cavalry; but the special courses devoted to this arm at the Military School might be ex-

panded with advantage. The horses are good, and come from Austria. The field-guns are of bronze or steel, Krupp's manufacture; the mountain-guns were taken from the Turks. The former are 160 in number, the latter amounting to 20, exclusive of the armament of fortresses and a few mortars. Though the war strength would amount to from 96,000 to 100,000 men, no reserve exists sufficient to officer them. In 1885 the Bulgarians had 65,000 men under arms, including the guerrilla bands of Macedonia. At Slivnitza and Pirot, inclusive of the garrisons of Widin, Sophia and Roumelia, were 351 officers, 37,335 rank and file, 1,527 horses, and 84 guns. This was all Bulgaria could place in the field. Since the war of 1877-78 a few roads have been made, but the railways, constructed solely with a view to the development of commerce, would assist little in the task of mobilization. The work of transporting battalions from Eastern Roumelia to the Danube would involve great delays, and the passes of the Balkans are not more practicable than formerly.

H. S.



Naval Summary.



THE yearly mobilization has taken place, and before these notes appear in print, the manœuvres will also have come to an end. It may be as well to give the general outlines of the manœuvres this year as laid down by the Admiralty, without going into full details of the scheme of operation. These were to ascertain the conditions under which a hostile fleet could maintain itself on an important trade-route and interrupt the traffic, always endeavouring to avoid a general engagement, and also under what conditions a slightly superior British fleet could successfully manœuvre to bring the hostile force to action, or compel it to return to port. Subsidiary objects also were, (1) To obtain information as to the most advantageous methods of employing a considerable body of scouting cruisers on both sides; (2) To ascertain the measures which a reserve fleet chiefly composed of coast defence vessels, whilst operating from a strategic point in the English Channel, should take to contribute to the support of the main fleet, and to protect itself against torpedo attack; (3) To ascertain what form the attack of torpedo-boats operating from a distant base should assume.

Berehaven and the Shannon were fixed on as the ports of the hostile fleet, and were considered secure against naval attack; Alderney was the base from which the hostile torpedo-boats were to operate against the reserve fleet or any ships of the British fleet navigating the English Channel. As the naval forces on either side were assumed to be nearly equal, attacks on fortified ports were not permitted, neither were attacks on unfortified coast-towns, as such attacks would not affect the general result of a war. In the same way simulated attacks on commerce were considered unnecessary, as, so long as the hostile fleet maintained its position on the trade route, all the sea-borne trade following that route was at its mercy; the cruisers therefore were wholly devoted to scouting and despatch services. It will thus be seen that most valuable lessons will probably be drawn from the result of these manœuvres, lessons which may prove more important even than those learnt during the last two years. The hostile fleet was commanded by Sir M. Culme Seymour, and consisted of 8 battleships and 11 cruisers, large and small, including 3 gun-vessels; while the British fleet under Sir G. Tryon was composed of 9 battleships and 15 cruisers, including 4 gun-vessels.

The reserve squadron of coast defence vessels was under the command of Commodore Powlett, and consisted of the *Active*, *Hecla*, 2 gun-vessels, and 6 coast-defence ironclads. The 24 torpedo-boats were divided between the two fleets. The manœuvres proper only lasted ten days; after mobilizing, the respective squadrons assembled first for ten days' target practice and exercise in

fleet evolutions, the target practice being spread over two days. Each fleet then coaled at its assigned base, in readiness for the declaration of war. As the *Army and Navy Gazette* rightly observed the other day, "It would be difficult to over-estimate the value of the alteration in the programme of this year's manœuvres, which once more includes gun practice and fleet evolutions as part of the teaching of the annual cruise." The absolute need for both items have been made apparent, as the coastguardmen have fallen back very much as marksmen during the last four years, simply because the annual cruise has been devoted to simulated operations only, and no time could be found for target practice. So with regard to steam tactics; and it will be a pity if in coming years a fair allotment of time to each item is not allowed, as has been done this year.

The number of ships employed this year in the manœuvres is not so large as last year; this results from the increase which has been made in our foreign squadrons during the last twelve months. No less than three ironclads, three armoured first-class cruisers, and three second-class, have been sent abroad since last November, while the reconstruction of the Channel squadron accounts for another battleship. There is a corresponding decrease in the number of men available for mobilization purposes, also due to this augmentation of our foreign squadrons; and this want of men is really a very serious matter, and whatever the cause may be—probably the expense is at the bottom of it—the Admiralty up to the present have made no real attempt to grapple with the difficulty. There are at the present time five first-class ironclads, two cruisers, and several torpedo gun-boats, all of which could have been utilized for the manœuvres, but there were no men to man them without calling out the Naval Reserve; and the necessary lieutenants could only be found by taking them from other ships, which were themselves, as it was, short of their proper complement. In fact, the word mobilization as applied to this commissioning of ships for the summer manœuvres is somewhat of a misnomer, and to the outside public misleading. A peace mobilization it is, but it is not a war mobilization, and it is a war mobilization which is wanted; and with the large number of new ships which are now coming on, in the event of war, the regular blue jackets, unless their number is largely increased, would only form the nucleus of the crews of the different ships, which would have to be completed by the Naval Reserve men. It is therefore evident that the mobilization scheme, as at present carried out, must in actual war be largely modified, and the question is whether, if a working war mobilization scheme really exists, it should not one year be properly tested, no matter what the expense may be, by calling out the Reserves and sending every vessel to sea which the Admiralty would utilize if war had actually broken out. The present organization—great advance as it is on anything which has gone before, and smoothly and expeditiously as it works for this peace mobilization—has yet to stand the test of fitting out the fleet for actual war.

The *Melpomene* has left for the Pacific, having escorted the Royal yacht, with the Empress Frederick on board, as far as Gibraltar. On arrival on her station she relieves the *Amphion*, which ship is ordered to the Mediterranean. The *Mutine* is to come home from China, her place being taken by the *Peacock* from the Cape.

Although there have been no serious mishaps in the engine-room, and no adverse reports about boiler-tubes from the ships commissioned for the manœuvres, yet serious defects have developed in another direction. When the *Inflexible* was at target practice two of her 80-ton guns were rendered useless by the failure of hydraulic gear, while one of the *Hero's* 45-ton guns was placed *hors de combat* from the same cause; these breakdowns are, to say the least, disquieting. The *Melampus*, one of the new second-class cruisers, has been launched at Barrow; she is similar to the *Latona*, launched by the same firm a few weeks ago, and whose dimensions we gave in a previous number; while the *Andromache*, a similar ship, has been launched at Chatham, as also the *Philomel* at Devonport, a somewhat smaller cruiser of the *Medea* type. The *Lapwing* and the *Ringdove*, the last of the new gun-boats to be completed, have made satisfactory trials of their machinery under both natural and forced draught. The *Sanspareil* has at last received the second of her 111-ton guns, and will now soon be ready for her gun trials. (All battleships are to be fitted with large three-arm semaphores; the signal-mast is to be of hollow steel, the same height as the fighting mast, and the arrangements for working the arms, which are to be five feet in length, will be contained in this steel tube.

The German Emperor has paid us another visit, having arrived at Cowes on the 4th August in the *Hohenzollern*, escorted by the *Irene*, commanded by his brother, Prince Henry. During his four days' stay he made a long and careful inspection of the dockyard, and of the gunnery establishment on Whale Island, and he also inspected the Royal Marine Artillery at Eastney. On his return to Wilhelmshaven, he visited Heligoland, which island had been transferred to Germany on Sunday, the 10th ult.

The French manœuvre fleet has broken up, the Mediterranean squadron having returned to Toulon. The general inspection of the squadron will take place during the month of September. From Cherbourg we learn that the third-class cruiser *Surcouf* has made a most satisfactory trial under forced draught. An average of 20·8 knots an hour has been made for three hours, although the sea was somewhat rough. A serious accident occurred on board the *Coureur*, a sea-going torpedo-boat built by Messrs. Yarrow, when on a trial trip off Toulon. One of the cylinder-covers broke, and two engineers were badly hurt.

From Spezia we learn that the Italian battle-ship *Andrea Doria* underwent her full-power steam trials last month most successfully. She, the *Ruggiero di Lauria* and the *Francesca Morosini* form a group somewhat similar in design to the *Admiral* class in our own navy. They are 11,000 tons displacement, 328 feet long,



and 65 feet beam, and their engines, of 10,000 h.p., are intended to give them a maximum speed of 16 knots; and the result of the day's run of the *Andrea Doria* gave an average of rather over the 16 knots. The coal was unpicked, and the stokers Italian. The engines are by Messrs. Maudslay. The armament consists of four 110-ton guns, made by Armstrong. The preliminary trials of the *Re Umberto*, 20,000 h.p., are expected to take place in a few weeks' time at Naples; she also is engined by Messrs. Maudslay.

From St. Petersburg it is announced that important modifications have been made in the programme of the approaching voyage round the world of the *Tzarewitch*. Instead of embarking at Cronstadt, he will now do so from one of the Mediterranean ports, probably Corfu, where his yacht will be in waiting. He will be escorted by a squadron, composed of the *Pamiat Azova*, bearing the flag of Rear-Admiral Pasarguine, the *Vladimir Monomach*, and the *Rynda*. After visiting the Pireus, he will proceed by the Suez Canal to visit India, China, and Vladivostock, returning *viâ* San Francisco and New York. At the latter port, another Russian squadron will be in waiting to escort him across the Atlantic to Cronstadt, touching at Cherbourg *en route*.

From Odessa we learn a terrible accident occurred the other day on board the Russian ironclad *Sinope*. When on her way to Sebastopol her main steam-pipe burst, killing a midshipman and twelve men, and severely injuring fifteen others.

From New York we hear that the new American cruiser *Baltimore* conveys the remains of the late Captain Ericsson to Sweden for interment; there is to be an elaborate naval ceremony. Captain Ericsson will best be remembered in this country as the designer and builder of the celebrated *Monitor*, which, in the battle of the 8th March 1862, in Hampton roads, forced the Confederate ironclad *Merrimac* to retreat, and saved the remnants of the Federal blockading squadron. The *Monitor* was the forerunner of all the turret-ships of the present day.

The Danish training squadron assembled at Copenhagen at the beginning of July for the summer cruise. It is under the command of Rear-Admiral Bragg, and consists of the double turret-ship *Iver Hvitfeldt*, and the corvettes *St. Thomas* and *Valkyrien*, and three first-class torpedo-boats with a steam miner.

One of the new Spanish cruisers, the *Infanta Maria Teresa*, will be launched on the 30th inst. (August) at Messrs. Martinez Rivas, Palmer's ship-yard at Bilbao. The ship is 7,000 tons, and the rapidity with which she has been built might rival the work in some of the best English yards, and reflects the highest credit upon the management and the English officials. Only about twelve months have elapsed since her keel was laid, and she is now ready to take the water, and this has been accomplished under no ordinary difficulties, as buildings, plant, and ships have had to be pushed forward together, with only about 15 per cent. of English workmen to educate their Spanish fellow-labourers. The Queen is to be present, and great preparations are being made for the ceremony.

Volunteer Notes.



It was impossible to give last month anything like a comprehensive notice of the annual meeting of the N.R.A. at Bisley, and this month such a notice would savour of ancient history. But, without going into details, we may surely place on record our conviction that not only was the first gathering on the new shooting-ground a very distinct success, but that it is likely to prove the inauguration of a new and altogether improved state of things both for the National Rifle Association and its *clientèle*. There is no question but that at the close of the meeting the feeling between the two was very much more cordial than it has been for some years past, and that the reports carried to their various homes by riflemen who had been present will go far to make that feeling in future more cordial still. Not only had the camp itself fully realised the most roseate expectations formed of it, but the general character of the meeting had been very considerably elevated, and that, too, without any serious expression of regret for the flesh-pots of Egypt represented by Wimbledon with its variegated conviviality and occasional downright rowdyism. Into the details of the various contests it is not our part to enter, but a word may well be given to the new Evelyn Wood Competition, conducted upon the lines of the new attack formation, in which nine companies from battalions of the Regular Army took part. Although the results were not particularly brilliant, the inclusion of the competition was significant as heralding, it is to be hoped, a still larger participation by the Regulars in the Bisley Meetings. And it is worthy of note that at the close of the meeting the Association were enabled to repay in part the assistance they had received from the War Office by placing their new ranges at the disposal of the latter for occupation by three successive brigades of Regular Infantry. We trust that these facts will be duly instrumental in developing the public estimation in which it is so eminently desirable that a national institution should be held, more especially when that institution happens to be, as the N.R.A. is, very greatly in want of temporary national support.

The annual meeting of the National Artillery Association at Shoeburyness, which commenced on the 9th of the month, had not

concluded when these Notes went to press, but there was sufficient evidence that there would be no falling-off this season from the very high all-round standard latterly attained by the Volunteer gunners, who have now met at Shoeburyness for twenty-six successive years. The discipline of the camp was being well-maintained, and the shooting quite satisfactory. A slight falling-off in numbers was apparent, there being only 149 gun detachments present as against 159 last year, but variations such as these need not be taken very seriously. The National Artillery Association is in an eminently sound condition, as it well deserves to be, and although it could do with a little more generous support, particularly in the direction of increasing the prize-list, it can in any case hold its own, and command the respect of the Volunteers and the public as a practical, progressive, and distinctly representative institution.

A friendly rival to the N.A.A. is the Scottish National Artillery Association, which completed its Annual Meeting just ten days before the commencement of the Shoeburyness function. The attendance included 1,000 Volunteers, not only from Scotland, but from the North of England; amongst the latter, the 2nd Durham A.V., from Seaham, being conspicuous. The seven detachments sent by this corps contrived to win the respectable sum of £161. The County Palatine, it would seem, is truly the home of Volunteer gunnery, seeing that last year it furnished twenty-two detachments to Shoeburyness, which carried all before them, including the Queen's Prize, and this year it has sent twenty-four.

Another important annual fixture has been worked off during August, to wit, the Camp of Instruction for Volunteer Engineers at Chatham. The Volunteers attending this gathering were under the command of Colonel Bingham, of the Sheffield corps, whose name and services in connection with the Volunteer movement are very well known indeed among the citizen soldiers of the North of England. A very excellent institution is this Engineer Camp of Instruction at Chatham, and it might well be either greatly extended or made the centre of a number of real schools for teaching engineer duties pure and simple to corps calling themselves Engineers. For although there has been a great improvement in this respect during the last few years, it can hardly be said our Volunteer Engineer Corps are anything like as proficient in their own special work as they ought to be. Doubtless it is not to be expected that the singular and many-sided efficiency of the Regular Sapper will ever be approached by his Volunteer *confrère*, but at least the latter should strive to advance beyond the standard which every infantry battalion of the Regular Army is expected to attain.

Of Regimental and Brigade Camps and Exercises there have, of course, during the last four weeks, been abundance in all parts of the country. It is satisfactory to note that, although the War Office has this year granted much greater freedom than they did last season to Volunteer Commandants in the matter of choosing whether they would take their corps into regimental camps, or

combine with others on the brigade system, there have been not a few cases in which the election has been in favour of the more workmanlike brigade camp. Two representative and highly successful gatherings of this kind have been the encampment of the Home Counties Brigade at Churn, and that of the Staffordshire Brigade on Cannock Chase. The former was under the command of Lord Wantage, V.C., the operations including some useful practice in outpost duty and the attack formation, some 2,000 of all ranks being present. The Staffordshire Brigade Camp was also directed by their Brigadier, Major-General Sotheby, and the operations comprised some interesting manœuvring on a scale befitting the magnificent camping-ground which Staffordshire men have always ready to their hand. A feature of this camp was the presence of a Brigade Intelligence Department, which seems to have performed its duties, including even the supply of information to the press, with conspicuous tact and thoroughness. Another successful Brigade Camp, though on a comparatively small scale, was that of the Western Counties Brigade on the Lansdown, near Bath.

In the early part of the month, the Bank Holiday furnished an opportunity for an important mobilization of Metropolitan Volunteers at Aldershot. Both the North London and East London Brigades were strongly represented, and were actively and usefully kept in pretty constant occupation by Sir Evelyn Wood. The Volunteer Medical Staff Corps, also, including Divisions from London, Edinburgh, Leeds, and Aberdeen, also formed a camp at Aldershot, but were scarcely as lucky as they were last year when they had the honour of taking part in the great Review before the German Emperor. Altogether, it is computed that between 12,000 and 14,000 Volunteers made use of the holiday period to go into camps of some sort.

A noteworthy incident of the month from quite another point of view has been the announcement in the House of Commons by the Secretary of State for War that her Majesty has been graciously pleased to place Volunteer officers in exactly the same position as officers of the rest of the army in regard to presentation at Court. In some quarters this concession has provoked, very needlessly as we think, some sarcastic comment, but the general feeling—not confined to Volunteers—is seemingly one of considerable satisfaction that this question, which for many years has been a source of much heart-burning and not very edifying argument, has now been finally set at rest.

Mr. Stanhope has not been long in redeeming his promise that provision should be made out of the public funds for the additional equipments required by Volunteers. A supplementary estimate has been presented to Parliament, amounting to £180,000, of which £100,000 is required for the equipment of about 190,000 Volunteers (Artillery and Engineers at 5s. per man, and other arms at 12s.), and £80,000 for great-coats. The promptitude with which this little matter has been arranged will unquestionably

have a good effect on the Force, accustomed as it has been for so many years to such very different treatment.

The classes for the instruction of Volunteer officers in musketry which were recently started at Aldershot, do not seem to be quite as popular as they were confidently expected to be. In the last class provision was made for twenty officers, but only nine joined, although, as has been remarked, one would have thought the season particularly convenient. Such a result can hardly be said to be otherwise than discouraging, seeing how essential it is that the musketry instruction of Volunteer corps should now be conducted on a much more careful system than has been hitherto obtained in the majority of cases. Perhaps a somewhat more satisfactory attendance could be secured by the simple expedient of confining the classes for musketry instruction of Volunteer officers to Hythe, where there are attractions out of school hours such as Aldershot, except to the red-hot soldier, can hardly be said to possess.

A correspondent of a morning paper in dealing with the Annual Meeting of the British Canoe Association has suggested an entirely novel development of the Volunteer idea. He thinks that a fleet of Volunteer canoes, the skippers of which would be suitably trained in signalling duties would be extremely useful in time of war either for scouting, carrying despatches, or as dynamiters. "By day the little thing," says this enthusiast, alluding to the canoe, "is concealed ashore, and by night so small its exposed surface, and so noiseless its movement that it can alone or in company creep along like an Indian in the grass, or far better simile, like a Greenlander in his cayik, and do work for which a more cumbersome craft would be unsuited." If a dozen such canoes made up their minds to destroy a hostile ironclad, blockading any fort of the country, it is thought that the chances would be in favour of success, and on the face of it the thing seems possible. But it will be readily conceded that the corps of Volunteer canoeists to carry out a work of this kind would have indeed to be a *corps d'élite*, actuated by the very loftiest patriotism and the most absolute disregard of personal safety.

Sporting Notes.

PARTRIDGE-SHOOTING opens to-day. The season promises to be fairly good, but on many estates sport will be far below the average, as the heavy rains drowned many of the young broods. In Scotland the harvest is late, and there will be no shooting for a few weeks.

Grouse are very numerous this year and healthy, but very wild. On many moors they are already being driven.

In no previous year has there been such an influx of sportsmen and tourists to the Highlands.

In spite of the rain which fell in torrents on the "Twelfth," throughout nearly the whole of the Highlands, many capital bags were obtained. The Duke of Hamilton's party at Brodick (6 guns) bagged 120 brace grouse; the Comte De Paris at Loch Kennard had 41 brace of grouse. At Moness the Duc De Chartres and the Duc D'Orleans had 81 brace of grouse and 31 hares. At Rottal Lord Airlie's party had 36 brace of grouse. At Drumochter Lord Ashburton's party (4 guns) secured 56 brace of grouse. At Castle Menzies Prince Wagram's party had 110 brace of grouse. At Glenwhilly the Earl of Stairs' party (4 guns) had 44 brace of grouse, and at Tullibardine Colonel Reid Stewart's party had 62 brace of grouse.

The Comte De Paris, who is enjoying excellent sport on the Moness and Kennard moors in Perthshire, where the Comtesse has also contributed largely to the "bag," leaves England shortly on a sporting trip to the "Rockies."

Sir Henry Ewart has rented Kentwell Hall, Suffolk, with the shootings over the estate. The Duke of Clarence and Avondale will be his guest in October.

Major Pike, of the Suffolk Regiment, has been severely mauled by a bear in Kashmir. After he had shot it dead, as he supposed, he incautiously approached it, when the animal seized him. He had a sharp scuffle for a few minutes, but succeeded in slaughtering it, after receiving several teeth and claw wounds. A friend, who had heard of the Major's encounter with Bruin, telegraphed him for particulars. The following was the reply:—"Am very fit; shall be all right in a week. Killed the bear."

Colonel Channer, V.C., has obtained a splendid ibex head in Thibet, viz. 42½ inches.

A salmon weighing 61½ lbs. has been captured up the mouth of the Taw. This is the largest fish ever caught in the river.

On the Esk, Annan, and Nith, in Dumfries-shire, splendid sport has been enjoyed for the past three months. The various spates have caused large runs of grilse and sea-trout. Trout-fishing all over Scotland has been exceptionally good, and on the Sutherland lochs magnificent sport has been obtained.

From the recent report of the Woods and Forests Commissioners, it appears that the Crown revenue from salmon-fishings has risen from £54 in 1856 to £6,004 in 1888.

Hunting prospects seem rosy everywhere, and there has never been such a year for foxes. The demand for hunting-boxes in the fashionable counties is very great, and several places round Market Harborough have already been taken. The Duchess of Hamilton will occupy Glenn House; Mr. A. P. Stokes, Dingley Hall; Mr. T. M. Jamieson, Bowden Hall, and Mr. R. Monro, Greenfield Lodge.

At a sale of timber on the Wentworth Woodhouse estate, near Rotherham, belonging to Earl Fitzwilliam, one tree fetched £110, the highest price ever paid for an English-grown tree.

The latest horseshoe is constructed from layers of paper, glued together and subjected to hydraulic pressure; each layer is treated with oil, turpentine, &c., rendering it impervious to moisture, and the specially manufactured glue is insensible to the influences of moderate heat and water. This paper shoe is attached securely to the hoof by gutta-percha, and being very elastic permits the expansion of the hoof. It is very tough and durable, does not become brittle with use, and wears rough, thus greatly preventing horses slipping.

A large shoal of whales has been landed at Hillswick, in Shetland. When the shoal was observed off the coast, several boats were speedily manned and drove the monsters into shallow water and killed. The chase created great excitement among the inhabitants.

The Marquis of Exeter is having four new trout-breeding ponds made at his hatchery at Stamford. Mr. Silk, the introducer of black bass into England, is the manager.

The Bannatyne.

WE have received Major Broadfoot's reply to the article "The True Story of Jellalabad," by Lieut.-General Sale, which appeared in our July issue. It will be printed next October.

We understand that the new and revised editions of Colonel Bannatyne's well-known *Guides to Promotion* will be published by William Clowes & Sons, Limited, 13, Charing Cross, S.W. Part I., containing what is required by Her Majesty's Regulations to qualify for promotion from rank of lieutenant to captain, is in active preparation, and will be issued very shortly.

The Council of the Balloon Society have awarded the Society's Gold Medal to Mr. H. M. Stanley, the African explorer, for services rendered in connection with his discoveries in Africa. Mr. Stanley has been an honorary member for several years past, and has always taken an interest in the proceedings of the Society. When he started on his last journey to the Dark Continent, he was anxious, if possible, to accept the offer made by the Council to take with him balloons for the purpose of taking observations from one station to the other. Since his return he has on more than one occasion expressed his regret that he had not availed himself of their offer. The Balloon Society was originally founded in 1862 by the late Charles Green Spencer, as the "London Aeronautical Club," and devoted itself exclusively to the purposes of aerial navigation. The name of the society was altered at the suggestion of the late General Burnaby, then one of its vice-presidents, in 1880, to the Balloon Society of Great Britain. The council then held its meetings in Robert Street, Adelphi. The medal awarded to Mr. Stanley was struck in African gold by the firm of Kendal & Dent, London.

The Society's gold medals have been presented for distinguished services to the following:—The late General Burnaby, the late General Fred Brine, R.E., Captain Date, M. Wilfred De Fonvielle, Mr. Charles Marvin, Professor Vambéry, the late Martin Tupper, W. K. Burton, C.E., Professor Morel, Lieutenant H. J. Conningham, Mr. Stanley Spencer, and Commander V. Lovett Cameron, R.N.—*Daily Graphic*.



A List of Military Inventions

PATENTED DURING THE TWO FOREGOING MONTHS.

[This List is specially compiled for the ILLUSTRATED NAVAL AND MILITARY MAGAZINE by Messrs. Rayner and Cassell, Patent Agents, 37, Chancery Lane, London, W.C., from whom all information relating to Patents may be had gratuitously.]

- 9,375. Improvements in magazine guns. ALFRED JULIUS BOULT, 323, High Holborn, London. (Frank Milton Garland.)
- 9,446. Improvements in the manufacture of projectiles. HENRY SCHLUND, 323, High Holborn, London.
- 9,503. Facilitating the instruction of signalmen in Royal Navy by using model flags, &c., called "Tufnell's signalman's instruction box." LIONEL GRANT TUFNELL, 64, Old Broad Street, London.
- 9,814. Improvements in apparatus for electrically firing guns. RICHARD MORRIS, 28, Southampton Buildings, London.
- 9,887. Improvements in electrical controlling apparatus for use in connection with torpedoes. SIMEON DE KOJINE, 45, Southampton Buildings, London.
- 10,353. Improvements in range-finders. JAMES MCKENZIE, 37, Chancery Lane.
- 10,456. Improvements relating to guns or rifles and other apparatus for utilizing the energy of gases under pressure. JOHN STEWART WALLACE, 45, Southampton Buildings, London.
- 10,830. Improvements in and additions to high explosive charges, or gun charges, shells, and torpedo shells. GEORGE YATES, 6, Livery Street, Birmingham. (Louis Boll, France.)

SPECIFICATIONS PUBLISHED.

- 10,358. MORRIS. Small arms. 1889. 6d.
 - 11,751. ROWLES. Projectiles. 1889. 6d.
 - 6,508. KELLY and DOUGHERTY. Ordnance. 1890. 6d.
 - 3,239. ENGLISH. Ordnance. 1890. 6d.
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- 10,523. Laying ordnance by an improved method. HENRY EDWARDES FANE GOOLD-ADAMS, Shoeburyness.
 - 10,662. Improvements in blasting cartridges. THEODOR PUSKAS and IVAN SCHLENKER, 18, Buckingham Street, Strand.
 - 10,825. Improvements in and relating to elevation and distance, or range indicators for use on heavy guns or ordnance, and for other purposes. HUBERT HENRY GRENFELL and GILFRID GEORGE BAKER CRESSWELL, 45, Southampton Buildings, London.
 - 11,055. Improvements in armoured vessels. GEORGE MEACOM, 18, Buckingham Street, Strand, London.
 - 11,194. An improvement in clips for carrying rifles or guns on velocipedes. WILLIAM WRIGHT and NEWBY SPOONER, 2, Saltash Street, Plymouth.
 - 11,212. Hollis's cylindrical twin propellers. WILLIAM HOLLIS, Esperance Villa, Bullars Road, Bitterne Park, near Southampton.
 - 11,236. Improvements relating to the manufacture of hollow projectiles or shells, and to apparatus therefor.
 - 11,238. Improvements in cartridges for breech-loading cannon. SAMUEL SEABURY, 6, Bream's Buildings, London.
 - 11,248. Apparatus for automatically regulating the firing of ordnance on ships. MANUEL JOSÉ CUADROS, 46, Lincoln's Inn Fields, London.

SPECIFICATIONS PUBLISHED.

- 8,915. ROGERS. Drop-down small arms. 1889. 8d.
- 12,003. BATCOCK and BATEMAN. Small arms. 1889. 6d.
- 12,704. ACCLES. Cartridges. 1889. 6d.
- 13,593. COUSENS (FROST). Utilising force of steam. 1889. 8d.
- 12,008. BRIGHTON. Breech-loading small arms. 1889. 8d.
- 20,979. BEESLEY. Drop-down guns. 1889. 6d.

The above specifications published may be had of Messrs. Rayner & Cassell, 37, Chancery Lane, at the price quoted.

Reviews.

The Influence of Sea-Power upon History, 1660—1783. By Captain A. T. MAHAN, United States Navy. (London : Sampson Low. 1890.)

THIS book seems to be in some sort one of the outcomes—and a very good one it is—of that revival of the study of naval history which took its rise in this country only a year or two ago. Indeed, some expressions in the singularly lucid and instructive introduction would seem to shadow forth that the conception of the work directly followed certain discussions which took place at the Royal United Service Institution in 1887–89. Whatever gave rise to the conception, or however the author was stimulated to produce such a work, no doubt can be left on any well-informed mind as to its extreme value. At a time when the historical method is, one might say, but struggling to the front, it was a bold idea to use it in challenging all the historians in a body with neglect of the primary element in the changes of political geography. It is, according to Captain Mahan, sea-power, its distribution, and the use which has been made of it, that has had most to do with the positions in which modern nations find themselves, yet the nations have by no means generally realised the fact; and some of them, such as France, have had it in their power to make a choice, and have made a wrong one. It might be stretching the point much further than Captain Mahan would stretch it, yet the thought will intrude as to what might have happened in the last Franco-German War had France, by the use of her preponderating navy, transferred the main theatre of the war to the German Baltic provinces, and restricted her home operations to a purely defensive attitude along the line of her frontier fortresses. If France had been prepared it would have been an easy thing to do, and it would have remained to be seen whether a German invasion of France and the defence of her northern provinces could have been carried on together.

Captain Mahan's introduction is a most excellent piece of writing and of reasoning. Indeed we are not sure that we have before met anything at once so lucid and so convincing as this short essay on the light in which naval history ought to be regarded. Unlike the many, and closely attached to the opinions of the few, the author boldly draws the most practical modern naval lessons from the strategy and the tactics of sailing wars, and even from the practices of the most remote antiquity. But Captain Mahan has in reality

the highest authority for following this course, as many of the most brilliant admirals of the past, as for instance, Raleigh, Monson, and Herbert, did not hesitate to base their actions as well as their conclusions on the study of events a thousand years old.

Take the following passage as relating to strategy :—

Nevertheless a vague feeling of contempt for the past, supposed to be obsolete, combines with natural indolence to blind men even to those permanent strategic lessons which lie close to the surface of naval history. For instance, how many look upon the battle of Trafalgar, the crown of Nelson's glory and the seal of his genius, as other than an isolated event of exceptional grandeur? How many ask themselves the strategic question, "How did the ships come to be just there?" How many realise it to be the final act in a great strategic drama, extending over a year or more, in which two of the greatest leaders that ever lived, Napoleon and Nelson, were pitted against each other? At Trafalgar it was not Villeneuve that failed, but Napoleon that was vanquished; not Nelson that won, but England that was saved; and why? Because Napoleon's combinations failed, and Nelson's intuitions and activity kept the English fleet ever on the track of the enemy, and brought it up in time at the decisive moment.

Or again :—

How did it happen that in two great contests between the powers of the East and of the West in the Mediterranean, in one of which the Empire of the known world was at stake, the opposing fleets met on spots so near each other as Actium and Lepanto? Was this a mere coincidence, or was it due to conditions that recurred and may recur again? If the latter, it is well to study out the reason, for if there should again arise a great eastern power of the sea like that of Anthony or of Turkey, the strategic questions would be similar. At present, indeed, it seems that the centre of sea-power, resting mainly with England and France, is overwhelmingly in the West; but should any chance add to the control of the Black Sea basin, which Russia now has, the possession of the entrance to the Mediterranean, the existing strategic conditions affecting sea-power would all be modified. Now were the West arrayed against the East, England and France would go at once unopposed to the Levant, as they did in 1854, and as England alone went in 1878; in case of the change suggested, the East, as twice before, would meet the West half way.

Or, to exemplify the author's views on the study of tactical naval history, we may take the following :—

We may therefore accept now the words of a French tactician, who wrote a century and a quarter ago, "Naval tactics are based upon conditions, the chief causes of which, namely, the arms, may change, which in turn causes necessarily a change in the construction of ships, in the manner of handling them, and so finally in the distribution and handling of fleets." His further statement, "that it is not a science founded upon principles absolutely invariable," is more open to criticism. It would be more correct to say that the application of its principles varies as the weapons change. The application of the principles doubtless varies also in strategy from time to time, but the variation is far less; and hence the recognition of the underlying principle is far easier. This statement is of sufficient importance to our subject to receive some illustrations from historical events.

The battle of the Nile, in 1798, was not only an overwhelming victory for the English over the French fleet, but had also the decisive effect of destroying the communications between France and Napoleon's army in Egypt. In the battle itself the English admiral, Nelson, gave a most brilliant example of grand tactics, if that be, as has been defined, "the art of making good combinations preliminary to battles, as well as during their progress." The particular tactical combination depended upon a condition now passed away, which was the inability of the lee ships of a fleet at anchor to come to the help of the weather ones before the latter were destroyed; but the principles which underlay the combination, namely to choose that part of the enemy's order which can least easily be helped, and to attack it with superior forces, has not passed away. The action of Admiral Jervis at Cape St. Vincent, when with fifteen ships he won a victory over twenty-seven, was dictated by the same principle, though in this case the enemy was not at anchor, but under way. Yet men's minds are so constituted that they seem more impressed with the transiency of the conditions than by the undying principle which coped with them. In the strategic effect of Nelson's victory upon the course of the war, on the contrary, the principle involved is not only more easily recognized, but it is at once seen to be applicable to our own day. The issue of the enterprise in Egypt depended upon keeping open the communications with France.

The victory of the Nile destroyed the naval force, by which alone the communications could be assured, and determined the final failure; and it is at once seen, not only that the blow was struck in accordance with the principle of striking at the enemy's line of communication, but also that the same principle is valid now, and would be equally so in the days of the galley as of the sailing ship or steamer.

The various theses which underlie these quotations are worked out in the book with a force and clearness which leave little to be desired. The period of history chosen for illustrating the argument begins with the first Anglo-Dutch war and ends with the close of the war of American independence. The period is not ill-chosen, and the treatment of the history is generally admirable. The author shows over and over again the enormous effect of properly understood naval strategy, properly carried out. He hardly hesitates to assert that if the French had properly understood the naval problem, William III. could never have fought the battle of the Boyne, and the Whigs would have gone under upon the return of James to his throne. He does not hesitate at all to point out that it was the naval alliance of France and Spain against us, and not the prowess and determination of the revolted Colonists, however great that might have been, which broke the Colonial tie and created the United States. It was indeed declared at the close of the war, that our naval shrinkage by comparison, compelled a peace. The author is particularly happy in showing how the neglect of the French Government to cut the communications between England and Ireland in 1689-90, when they had ample power to do so, permitted the re-conquest of Ireland and compelled the flight of James; but we regret that he should have been apparently led by Macaulay into a misconception of the character of Torrington as a strategist. It is plain on the record that Torrington was right and Mary's Council wrong in their views of the position which preceded the battle of Beachy Head. And we are not at all sure that Torrington was really to blame for the only misfortune of the battle, namely the useless loss on the part of the Dutch. It is certain that the Admiral and his flag officers thought a battle useless and dangerous, and that being forced into it, it was still their duty to fight a partial action, sufficient to discourage the French but not sufficient to run any risks of giving, by complete defeat, a real command of the Channel to the Count De Tourville. Macaulay, starting with one of his foregone conclusions, that the battle of Beachy Head was a national disaster, due to the fault of the English Admiral, goes back to a vilification of Torrington's private character in order to account for his assumed misbehaviour. If Macaulay had been able to understand the strategical position, we should have heard nothing of Torrington's "vices."

Our author displays the greatest boldness in his treatment of the tactics of sailing fleets; and it would be well for the readers of the uninformed Mr. Clarke Russell's *Nelson* to compare his wild guesses at meeting the popular view with the sober judgment of an able naval officer. The care with which Captain Mahan pursues his inquiries into the modes by which sea-fights were won,

stamps him as possessing one of the highest intellects in the naval world.

The book, in short, is one that no naval officer ought to fail to study. The statesmen who aim at understanding what makes the power or the weakness of a nation, cannot fail, without negligence, to master its contents, and even the mere *littérateur* may enjoy the work for the sake of its limpid and flowing style.

Notes and Suggestions on Military Uniforms. By Lieut.-Colonel E. BROWNE. (Cheltenham: Horace Edwards. 1890.)

This is a sensible tract on the subject of "rational clothing" for the army, though it contains little but what has been constantly urged upon the authorities at any time during the last half century with results that are hardly perceptible. The author declaims against the notion which pervades the military mind that "tightness is essential to smartness"; this is, as he justly surmises, a legacy from the age of Frederic the Great. Indeed, before that great king's reign, the habiliments of the soldier appear to have been comparatively loose and flowing. Lord Wolseley has lately written that the British soldier was better equipped for work in Queen Anne's time than at the present day, and any of our readers who will refer to Mr. Simkin's illustrations to "*Epochs of the British Army*" in our pages, will see that in the days of Ramillies and Malplaquet, and in those of Dettingen and Minden, his clothes, if ample and voluminous, did not, at any rate, impede the free use of his limbs. Colonel Browne advocates the use of a tunic, identical in cut for every branch of the service, and to be worn in both full and undress. It has wide sleeves, fastened at the wrist like those of a night-shirt, in fact; and a turn-down collar similar to that worn by the Italians, whose army he holds up, with justice we think, for imitation as the best dressed in Europe. Knicker-bockers and gaiters would be worn by all, and a cape by the cavalry which would permit the free use of the arms without uncovering the body. The author's ideas are illustrated by outline sketches.

Journal and Proceedings of the United Service Institution of New South Wales. Vol. I. (Sydney. 1890.)

We welcome this evidence of the vitality of the military spirit in the oldest of our Australian Colonies. It is a marvellous achievement, and one of which the mother country may well be proud, that her sons should have created a flourishing community, self-contained and able to provide for her defence from exterior foes, where a century ago only the miserable convict settlement of Botany Bay was to be found. At the present day, so great is the interest excited by national defence that its votaries are able to publish a journal which records the proceedings of a *United Service Institution* which rival those which are recorded at home and in India. The Imperial troops having been withdrawn from New South

Wales in 1870, next year the beginnings of a colonial regular force were made. Side by side with these grew up the Volunteers, who, under the Act of 1867, received a grant of land after five years' good service. This system was abrogated, and in 1878 the payment of Volunteers for work done was sanctioned. The Regular troops of the Colony now amount to 7,500 men, whose strength could be raised on emergency to 10,000. Some of these are "partially paid," an arrangement which reminds us of the Roumanian army, in which there are troops who serve for only half the year at a time. General Richardson's inaugural address is replete with information regarding the military state of the Colony. The contents of the volume deal with the naval and military questions of the day. Major MacCarthy contributes a lecture on the "Defence of the North-Western Provinces of India." Measures, as we know, are being adopted in those regions for meeting that Russian attack which is sure to be made when European complications happen to favour the step. They include the concentration of large masses of troops in the Punjab, the construction of railways, and the fortification of Quetta. Our extreme outpost is already within 70 m. of Kandahar; and there is every reason to believe that we could occupy that city expeditiously, with a view to meeting the foe on the banks of the Helmund river. We note, however, that the lecturer, in divergence from General Chesney's opinion quoted last month, looks upon the country north of the Khyber Pass as impracticable for an invading army; also that while disapproving of the evacuation of Kandahar, he tacitly admits that this measure has conciliated the Afghan race, and practically enlisted them on our side, should Russia become an aggressor. Surely this is an incalculable advantage which outweighs strategic considerations. Papers treating of "Modern Infantry Fire," "Coast Defence," "Soldiers' Dress as Suitable to the Climate," and "Naval Attacks on a Protected Harbour," go to form the body of a very attractive volume.

Frays and Forays. By Captain G. J. YOUNGHUSBAND, Queen's Own Corps of Guides. (London: Percival & Co.) 1890.

Captain Younghusband's *débuts* in literature have been so promising that if he goes on cultivating this pastime as a relief from strenuous occupations he will, peradventure, achieve distinction. Not a dull page is to be met with in this collection of reminiscences; they are replete with fun and incident. The writer's style is sprightly and "fetching"; some censorious critics have, we believe, dubbed it "frivolous"; at any rate it is entertaining. Time, no doubt, will suggest a more careful revision of proofs. The only enigmatical sentence in the book is the last one.

Foreign Sequipe Magazines.

SUMMARY OF ARTICLES.

THE MILITARY MAGAZINE. (Voyenni Sbornik.) (St. Petersburg.)
July 1889.

The Army of Erivan in 1877-78, Part VIII. (with a Plan of Battle), by B. Koliubakin—The Independence of Regimental Officers in War. By Lieut.-General Weide—Artillery in Action—The Armament of Cavalry—Disciplinary Battalions and Companies—Horse-breeding in European Russia—The Italians in Abyssinia (*concluded*)—A Ride from Ostrolenka through Moscow to St. Petersburg and Back. By Cornet Fedoroff—Count Todleben, a Biographical Sketch.

INTERNATIONALE REVUE UEBER DIE GESAMMTEN ARMEEN UND FLOTTEN.
(Max Babenzin, Rathenow.) August 1890.

The Development of Modern Naval Tactics—The Armed Force of the British Colonies. By Major Berghaus (*concluded*)—Balloons with respect to Tactics and the Smokeless Powders—Reminiscences of the Mexican Expedition in 1862-65.

JAHRBUECHER FUER DIE DEUTSCHE ARMEE UND MARINE. (Berlin : Richard Wilhelmi.) August 1890.

The Ideal of Cavalry—The Spring Manœuvres of the English Volunteers—The Fortification of Italy—Forts and Melinite.

JOURNAL DES SCIENCES MILITAIRES. (Paris : L. Baudoin et Cie, 30, Rue et Passage Dauphine.) July 1890.

The Tactics of Supply. By General Lewal—The Construction of Posts on the Soudan Route—The Campaign of 1814—A Revolution in Cavalry Tactics—The War of Masses—French and Foreign Remounts—Historical Notices of the General Staff.

MITTHEILUNGEN AUS DEM GEBIETE DES SEEWESENS. (Pola.) Nos. VI. and VII., 1890.

Modern Researches in Oceanography—Krupp's Experiments with Smokeless Powder—The New Naval Programme of Portugal.

ARCHIV FUER DIE ARTILLERIE UND INGENIEUR OFFICIERE DES DEUTSCHEN REICHSHEERES. (Berlin : Mittler und Sohn.) July 1890.

The Meaning of Rapid Firing for Artillery in Action—A New Range Finder—An Armoured Shield for a 15-c.m. Howitzer Carriage—Notes on England, China, &c., &c.

REVUE D'ARTILLERIE. (Paris : Berger, Levrault et Cie, 5, Rue des Beaux Arts.) July 1890.

Drouot (1774-1847). By Captain Girod de l'Ain--Some Questions Touching Indirect Fire in Sieges--Repeating Rifles Abroad--Reviews, &c., &c.

REVUE DE CAVALERIE. (Paris : Berger, Levrault et Cie., 5, Rue des Beaux Arts.) July 1890.

The Reduction of Cavalry Cadres--Pajol. By General Thoumas (*continued*)--The German Cavalry--Cavalry Quarters in France and Abroad--Sabre Play--Military Sport--Official Section, &c., &c.

REVUE D'INFANTERIE. (Paris : 11, Place St. André des Arts.) August 1890.

The French Army : What It is, and What It Ought to be--Infantry Instruction--Hygiene, Health, and Economy--Austria-Hungary in the Next War--Essay on the Reorganization of the Administrative Department of the Army.

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RIVISTA MARITTIMA. (Roma : Tipografia del Senato.) July and August 1890.

Christopher Columbus : His Person and Portraits. By Salvatore Rainieri--Historical Notes on Submarine Weapons--Supply of Drinking Water on Ships of His Majesty's Navy--The Stability of Ships--A Month in the Island of Ceylon. By Dr. Philip Rho, (*continued*)--The Infancy of Nautical Science.

REVUE DU CERCLE MILITAIRE. (Paris : 37, Rue de Bellechasse.) July 6th to August 10th, 1890.

The Trans-Saharian Railway--Heligoland--Roman Fortification--The New Austro-Hungarian Musketry Regulations--Regulations for Manœuvres--The New German Musketry Instruction (*continued*).

JOURNAL DE LA MARINE. LE YACHT. (Paris : 55, Rue de Châteaudun.) Nos. 643-648.

The Gun-boat *Mosquito* (643)--The Naval Budget (644)--The Torpedo-Boats of 1889 (*continued*) (645)--The 3rd Class Cruiser *Forbin* (646)--The English Naval Manœuvres (646)--Naval Mobilization in England (647)--The German Navy (648).

REVUE MILITAIRE DE L'ÉTRANGER. (Paris : L. Baudoin et Cie., 30, Rue et Passage Dauphine.) 30th July 1890.

War Schools in Russia--The Law of 15th July 1890, and the Peace Effectives of the German Army--The Military Constitution of Roumania (*continued*)--The Manufacture of Rifles for the Hungarian Landwehr.

LA FRANCE MILITAIRE. (Paris : 11, Place Saint André des Arts.)
Nos. 1,859 to 1,892.

The Naval Budget (1,859)—The History of the French Army (1,859 &c.)—The Recruiting of the French Navy (1,860)—The German Army as It is (1,860)—The Giffard Rifle (1,861)—Strategic Railways in China (1,865)—The Army and the Legislature (1,874)—Colonial Garrisons (1,878)—The Fortifications of Paris (1,881)—Italy and the Italian Army in the Triple Alliance (1,884)—New Cavalry Tactics (1,886)—The *Alliance Française* (1,890).

LE PROGRÈS MILITAIRE. (Paris : 34, Rue du Mont Thabor.) Nos. 1,015 to 1,019.

The Report on the Budget (1,015)—The Cadres of the Artillery (1,015)—The Army Commission (1,015)—The Revolution in Cavalry Tactics (1,017)—The Manœuvres of 1890 (1,017)—The Use of Cavalry (1,019)—The Remounting of the Gendarmerie (1,019).

MITTHEILUNGEN UEBER GEGENSTAENDE DES ARTILLERIE UND GENIE-WESENS. (Vienna.) Druck und Commissionsverlag von R. v. Waldheim.) No. 7. 1890.

Russian Ideas and Proposals in Fortification (*continued*)—The Causes of the Heating of the Bore in Firing—Transportable Bridges at the Paris International Exhibition—Firing Regulations for the German Artillery.

RIVISTA DI ARTIGLIERIA E GENIO. (Rome : Voghera Carlo.) June 1890.

The Walls of Rome—On the Use of Mineral Oil for Lubrication—A New Method of Determining the Velocity of Projectiles in the Gun—Changes in the *Matériel* of the French Field Artillery.

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AYESHA :

THE DAUGHTER OF THE KEXHOLM GRENADIER REGIMENT.

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No. 22.

OCTOBER 1st, 1890.

Vol. VI.

Ayesha:

THE DAUGHTER OF THE KEXHOLM REGIMENT.



ON the 20th June, so we are informed by the *Vsemirnaya Illustratsia* of St. Petersburg, the Kexholm Regiment of Grenadiers celebrated the leaving school of Ayesha, *alias* Maria Konstantinovna at Warsaw, where she was educated at the cost of the late Tzarina.

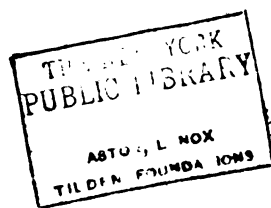
In 1877 this regiment, after the fall of Plevna, pursued the army of Suleiman Pasha through the passes of the Balkans. Notwithstanding the humane treatment accorded them, the panic-stricken inhabitants of Turkish origin abandoned their homes in crowds, fleeing in the direction of Constantinople. The greater part of the road from Philippopolis to Adrianople was strewn with the stiffened corpses of men, women, and children lying among the dead bodies of horses, bullocks, broken-down carts, and all sorts of rubbish. In the midst of this fearful scene, a non-commissioned officer of the military train, named Savenka, remarked a dying woman, who by signs drew his attention to a

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ragged little girl, her daughter, who was sitting beside her, starving and half-perished with cold. The child being no more than five years old, it is not surprising that she was totally ignorant of her own origin and history, further than that her name was Ayesha. She only knew that the dead woman was her mother, and that her father was a soldier, who, as it would appear, had been slain in action. She had no knowledge as to their place of residence.

Until the close of the war, Ayesha remained with the baggage train under the care of Captain Petersen. On the return of the regiment to Warsaw, the child was christened Maria, with the cognomen of Konstantinovna, from her godfather Konovaloff's christian name, the surname of Kexholm being added in remembrance of the regiment which had rescued her. A subscription was then made among the officers for a small fund to assure her future, and its management was confided to a committee of trustees chosen from among them. Her portrait subsequently attracted the notice of the late Emperor Alexander II., and having ascertained from the colonel of the regiment the above details, he promised to use his influence with the Empress to obtain the girl's admission into one of the governmental institutes for the education of females. In 1880 she was installed in the Alexander-Maria Institute at Warsaw as a pensioner of the Empress, where she has completed the curriculum in a highly successful manner. This event was celebrated with high religious ceremonies and brilliant festivities by this regiment of Finlanders, which may well be proud to add this act of humanity to the roll of its martial deeds.





WELLINGTON.

Great Commanders of Modern Times.

By WILLIAM O'CONNOR MORRIS.

V.

WELLINGTON.



ARTHUR WELLESLEY was born in 1769, a few weeks before the birth of Napoleon. His family belonged to "the English in Ireland"—a happy expression of Mr. Froude; and the future soldier and statesman in his great career displayed many of the distinctive qualities of a ruling caste which, though of late decried by traders in faction for selfish purposes, has nevertheless given more than a due proportion of eminent men to the service of England. The ancient seat of the Wellesleys has been long a ruin; the traditions of Meath yield no records concerning a House which produced two of the most illustrious names in our eventful history, and all that is really known about the first years of Arthur is that he was a sickly child, overlooked by his parents. At Eton the boy showed none of the brilliancy of his elder brother Richard, a precocious genius; he was unnoticed at the military school of Angers, and no one who saw the two youths in these years would have thought that the fame of "the Wellesley of Assaye" would eclipse that of "the Wellesley of Mysore."

Arthur obtained his first commission in 1787; passed rapidly through the intermediate grades, after the bad fashion of that age of privilege, and was placed, through interest, at the head of the Thirty-third, just as the Great War with France had begun. During the intervening period he had held a seat for the borough of Trim in the Irish Parliament, and had been on the staff of the Lord Lieutenant (Camden); and some faint memories of his life in those days have survived down to the present time. Passing by idle gossip, the young member spoke on the Catholic Relief Bill of

1798 ; the speech, though dry and blunt, goes straight to the point, and is characteristic in many ways ; and an old house on the quays of Dublin which commands the Liffey and the adjoining streets, and which, it is said, he urged the Government to buy, remains to this day to prove that Wellington had in early youth a true military eye. It is impossible to doubt that, even in these years, Arthur had studied and read a great deal, and was well-versed in his professional work. He had acquired a command of the English and French tongues which made him the master of a vigorous style, not brilliant or striking, but clear and solid ; his writings nearly of this date give proof of thorough information on many subjects, and of singularly ripe and disciplined thought ; and from the first moment that he obtained a regiment, he made his mark as a most promising officer. Like Turenne, Wellesley addressed himself with untiring industry to the care of his men ; he enforced discipline with a steady hand, and showed that he had the faculty of command ; and, like Turenne, he was soon able to boast that his corps was well-ordered and very efficient. The occasion quickly came when the young colonel was to show that he possessed qualities above those of the common herd of men.

In the unfortunate campaign of 1794 the Thirty-third formed part of the British army, which, under the command of the Duke of York, had been separated from the main allied force retreating on a divergent line to the Meuse, and which, hardly pressed by the Republican levies, advancing upon the flood-tide of victory, was endeavouring to make its way into Holland. Wellesley distinguished himself in several rearguard actions, displaying from the first the skill in defence, the resource in danger, and the perfect self-reliance, which were peculiar gifts of the future chief ; and it is significant that he was chosen to cover the retreat, a task he performed with marked ability. These experiences made a profound impression on a remarkably penetrating and sagacious mind ; they seem to have led him to observe carefully, and to form an admirably just estimate of what he called " the new methods " of French warfare, and of what was good and defective in them ; they enabled him to realise the immense abuses then prevalent in the Continental armies, and to a considerable extent in our own ; and, unquestionably, they were of the greatest use as a preparation for the Peninsular War. It is remarkable that, after this first essay in arms, most honourable as it had been to him, Wellesley tried to give up a military career, and actually applied for a post in the Civil Service ; the reason he assigned was that he saw little chance

of advancement through merit in the British army, to the shortcomings of which he had become fully alive.

Fate happily disregarded Wellesley's prayers; and having escaped exile to the West Indies, he was sent off to Calcutta in 1797. A short time afterwards, his brother Richard, the Marquis Wellesley of a later day, arrived in India as Governor-General, and the real career of Arthur may be said to have opened. Much of his correspondence of this period remains, and it bears the marks of the prudent forethought, of the clear insight into men and things, and, above all, of the moderation of view, which distinguished Wellington when at the summit of fame. He was often consulted by the Governor-General, and it is interesting to note how the ambitious statesman,* a more brilliant but a less scrupulous man, was more than once restrained by the calm-minded soldier. Arthur Wellesley's judgments on Indian affairs were such as Marcus Aurelius might have made had he been a Pro-consul in a province of Rome; he was the constant advocate of peace with honour, of keeping the strictest faith with the Princes of Hindustan, of no undue extension of our growing Empire; and yet he thoroughly understood the true nature of that wonderful domination which, in spite of itself, was winning its way to supremacy in the East, in virtue partly of its own force, and in part of the decay of all powers around it, and of the jealousies and discords of its numerous foes. Another characteristic of these papers is this: they show that the writer had admirable views on military and civil administration alike; and the remarks on the whole system of our Indian Government, which repeatedly occur, are profound and striking. Peace in India at this time had become impossible; the inglorious satrapy of Sir John Shore had only encouraged the hopes of our enemies; and the news of Napoleon's descent on Egypt, and of his avowed project to march to the Indus, had animated Tippoo Sahib to endeavour to break the settlement made by Cornwallis in 1793. I shall not repeat the often-told tale of the dealings of "citizen Tippoo" with the Directory of France; of the assistance he received from French soldiers of fortune; of the siege of Seringapatam, and his death; this scarcely belongs to Wellesley's career, who was a subordinate only in the attack on the fortress, and who, in these operations, happened to meet one of the few reverses he met through life. He was made Governor of Seringapatam, and afterwards of Mysore; and in this position he first gave proof not only of great admini-

* Lord Wellesley's epitaph, chosen by himself, is strikingly characteristic:—"Super et Garamantas et Indos protulit imperium."

strative powers, but of that capacity for ruling alien races—for reconciling the ascendancy of the English name with the obedience of people completely different—a gift partly due, perhaps,* to his Irish experience, and partly to firmness, patience, and a strict regard to justice, which stood him in good stead in Spain and Portugal. Ere long Wellesley, now raised to the rank of General, had an opportunity to show what he was in command.

He had distinguished himself, when at Mysore, in putting down a Mahratta partisan who had ravaged the country with part of Tippoo's forces; and when Scindiah and Holkar in 1803 made a determined effort to destroy our Empire, Wellesley was placed at the head of an independent army, and advanced from Madras into the Central Provinces. I pass over his forced march to Poona, considered in those days a remarkable feat, and his rapid operations in the Deccan; and I proceed at once to the really grand exploit which gave him, for the first time, a great name in India. Wellesley and Stevenson, in September 1803, were near the Kaitna, one of the Godavery's streams, at the head of about 16,000 men; Scindiah's army, 50,000 strong, commanded and organized by French officers, was in camp at no great distance; and the two Englishmen agreed to attack it, on lines divided by a wide range of hills, strategy which, even in the case of Indian warfare, was too hazardous, and cannot be justified. Wellesley came up with the enemy at Assaye, his colleague being still far away; and, as more than once was seen in his career, his boldness on the ground and his quickness in action made more than amends for a strategic error. Disregarding all odds, like Clive at Plassey, he instantly fell on the masses before him; and though the issue of the battle was doubtful for a time, nothing could stand against his British foot and horsemen, and in a few hours he gained a complete victory. Stevenson arrived before long, and the campaign ended in the easy triumph of Wellesley's arms, and in a large increase of our Indian dominions. Yet Assaye had, perhaps, other results; the strategy of Wellesley was, no doubt, faulty; and the battle probably gave Napoleon, who let nothing escape him in war, that first false impression of the "Sepoy general," which caused him greatly to undervalue Wellington, with fatal consequences to France in the Peninsular contest.

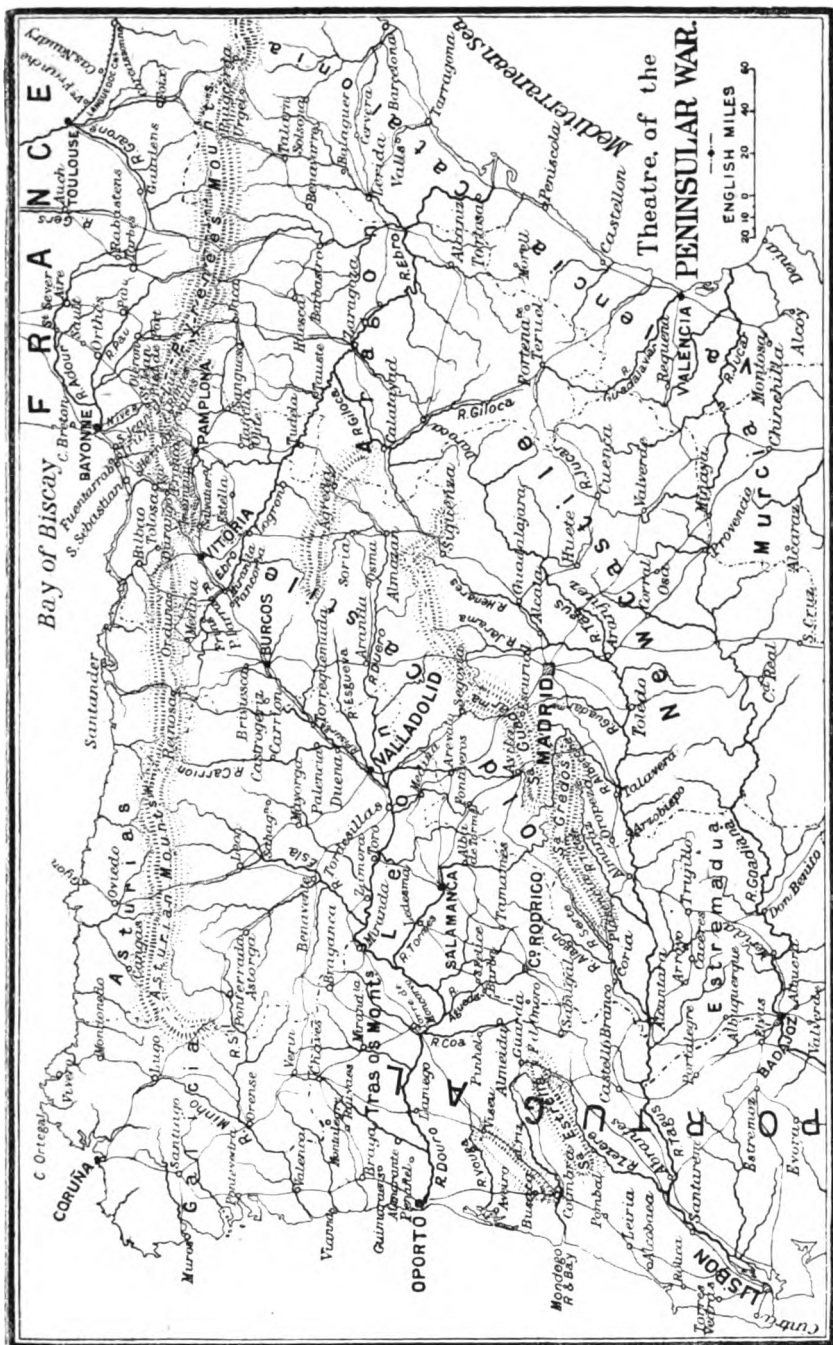
* It is most remarkable how many of the Irish Protestant aristocracy have distinguished themselves in India. Besides the two Wellesleys, the names of Eyre Coote, of Gough, of the Lawrences, of Canning, of Dufferin, will at once occur to the reader. This, no doubt, may in part be traced to their hereditary ascendancy over the Celtic Irish.

Wellington always looked back on India with pride ; and nearly two generations after Assaye, when he had been for many years the first of living Englishmen, he actually proposed to set off for the East, when danger threatened our power on the Indus. An attentive observer will, indeed, perceive that his career in Hindustan foreshadows, in part, his more renowned career in Portugal and Spain ; we see in both the same sober wisdom, the same administrative gifts, the same intrepid conduct, if Wellesley had no opportunity to display his skill in defence in Asiatic warfare. He was back in England a few weeks before the memorable events of Ulm and Trafalgar ; but he was relegated at first to a civil post, and he became Chief Secretary for Ireland under the Duke of Richmond.

The state of the island was very critical ; the fires of 1798 were still smouldering, and the unpopularity of the Union strengthened the hands of the remains of the rebel Irish faction, which continually looked to France for aid, though, characteristically, scorned by Napoleon. Wellesley ruled after the fashion of those days : that is, he kept Celtic discontent down and threw bribes and places to greedy seekers of both, in order to extend ministerial influence ; but he was perfectly aware of the many abuses then prevalent in the social condition of Ireland, and his warnings on the subject now appear prophetic. He was at the bombardment of Copenhagen in 1807 ; was chosen by Lord Cathcart to arrange the terms of the surrender of the fleet with the Danish commander ; and won golden opinions in this delicate task from brave enemies, whom he seems to have pitied. At last, in the summer of 1808, fortune found for him a place on the theatre of the great events which were stirring the Continent especially adapted to his peculiar genius, and launched him on the career which has made him famous. By this time Napoleon's first invasion of Spain was ending in calamitous failure ; the French armies were falling back at all points, and the British Government resolved to strike a blow at Junot and his corps, isolated in the midst of Portugal. Wellesley set off from Cork in the middle of July, at the head of about 10,000 men ; and a remark he made to his friend Croker, when leaving, shows the character of the man and his strong nature. "The French armies," he said, "have beaten all the Continent. They have, it seems, adopted a new system ; they have outmanœuvred every enemy they have met, but I do not think they will outmanœuvre me, though, as a matter of course, I may be outnumbered."

Wellesley had landed at Mondego Bay in the first week of August; he was soon joined by about 5,000 men under General Spencer, from the south of Spain, and he ultimately had nearly 20,000 troops, by the addition of a British division and some Portuguese auxiliaries. The effect of the descent was to throw a superior hostile force on the communications of Junot's army, and to place it in grave peril, for it was split in fractions; and Wellesley hoped to cut it off from Lisbon, and, should a detachment under Sir John Moore co-operate, even to intercept its retreat on Elvas, and so to cause its complete ruin. This able plan was frustrated by a series of accidents, though it led to a brilliant if not a decisive victory. Wellesley attacked and defeated a French division at Roliça on the 17th of August; and he was in turn assailed when on the march to Lisbon, at Vimeiro, not far from the coast, by Junot, who had assumed the offensive with from 14,000 to 16,000 men. The efforts of the French completely failed; and as their defeated columns drew off, Wellesley eagerly tried to follow up his success, and to force Junot against the Tagus, where, even without the aid of Moore, he might destroy the Marshal. This bold and brilliant stroke was, however, prevented by the interference of Sir Harry Burrard, a veteran of the old school, who had come from England, unluckily, to take the chief command, and the French army escaped unmolested. The Convention of Cintra soon followed; and though a storm of indignation arose at the time, because Junot and his troops were landed in France, it is but fair to remark that as Moore did not complete the operation laid out for him, the French would probably have made good their retreat. The one real opportunity was lost at Vimeiro, owing to a change of leaders at a critical moment.

This short campaign brought out one of the gifts of Wellesley, capacity for bold offensive movements, not on a grand scale but within limits where readiness and vigour are of special value. His ability was recognized at the inquiry held in England, after the affair of Cintra; and he returned to Portugal in the spring of 1809 in supreme command of a mixed force of British and of Portuguese troops, perhaps altogether 40,000 strong, which had been assembled for the defence of Lisbon, and had been organized by Generals Cradock and Beresford. Affairs in the Peninsula had, by this time, completely changed since the year before; and it was universally believed in Europe that the whole country would in a few months become a vassal province of the French Empire.





Napoleon had invaded Spain for the second time, at the head of forces that nothing could resist; he had swept aside the rude levies that crossed his path. Saragossa had fallen; a British army, led by Moore, had narrowly escaped destruction; the national insurrection seemed, for the moment, crushed; and fully 300,000 veteran soldiers, commanded by skilful and successful chiefs, were gathered round the eagles for a march of conquest from the Ebro to the mouth of the Tagus. Yet Wellesley, with deep sagacity and grand strength of character, refused, in this state of things, to despair; and he drew elements of hope from the peculiar nature of a theatre of operations he had carefully scanned, and from the conditions of French invasion in Spain and Portugal. Portugal, open to England through the command of the sea, and scarcely accessible from the Spanish frontier, the only avenue open to the French armies, could, he insisted, be defended with success, by a small British force if well supported by the national militia and the Portuguese Government; and he relied greatly on the immense impediments which would necessarily beset the French in Spain, owing partly to the ubiquitous guerrilla risings, partly to the intricacies of a region of mountains and defiles, partly to the exposed state of the communications with France, assailable along a vast line, and partly to the extreme difficulty of concentrating and supporting large forces which, upon Napoleon's principles of war, would be compelled to subsist in a poor and barren country on resources principally drawn from the spot. These admirable views, set out in detail before Wellesley reached Portugal in 1809, anticipate the course of the Peninsular war, and in a great measure foreshadow its event; and if they do not equal Napoleon's conceptions in splendour, science, and imaginative force, they indicate real genius for defence and military wisdom of the highest order. Wellesley's first operations were of happy augury, and realised his predictions with full completeness. Napoleon, before he set off for Wagram, had made preparations to invade Portugal on what he considered a sufficient scale, while he continued to extend his power in Spain; and for this purpose he had directed Soult to march on Lisbon with an army supposed to be at least 40,000 strong, while Victor was to second the movement by the valley of the Tagus with about an equal force. Soult, however, pursued by swarms of guerrillas and making his way with extreme difficulty, reached Oporto with less than 25,000 men; though Victor routed a Spanish army, he never approached the Portuguese frontier; and when Wellesley arrived in Lisbon

the two Marshals were far from each other, unable to co-operate, nay, perhaps, unwilling, and not in sufficient force to subdue Portugal. Wellesley, rightly aiming at his nearest foe, marched against Soult with about 30,000 men; and the operations that followed were very brilliant.

Soult, dreaming of a throne for himself in Portugal, and a somewhat indolent though a very able man, was surprised and assailed by his bold adversary; the Douro was crossed by the British army, under the eyes of a powerful hostile force, by a movement of singular daring and skill; and a detachment ably sent off by Wellesley all but cut off the Marshal's retreat, and nearly involved him in utter ruin. In fact, Soult only contrived to escape by abandoning his *impedimenta*, and crossing the ranges that lead into Spain with the wreck of an army, and the invasion of Portugal ignominiously failed.

The passage of the Douro in the face of Soult is another instance of the skill of Wellesley in offensive movements upon a contracted theatre. He now turned his attention towards Victor, far off, yet in the lowlands of the Tagus; but a long pause in the operations took place, due, partly, to the maladministration of the British army, partly to disputes with the dullard Cuesta, in command of the Spanish army of the west, and partly, too, perhaps, because the English general had not the fierce energy, in a situation like this, of the warrior of the campaign of Italy. Wellesley had defeated Soult by the middle of May; he did not even attempt to advance against Victor until the last days of June, and it was the third week of July before his army, having effected its junction with that of Cuesta, was in the valley of the Upper Tagus, marching in pursuit of the French Marshal. The allied chiefs were now at the head of about 20,000 British troops and 40,000 Spaniards, mostly new levies; their purpose was to attack Victor, falling back leisurely towards Talavera; and they moved up the Tagus, not without hope that they might ultimately reach the Spanish capital, for they expected aid from a Spanish army in the south.

The long delay which had occurred, however, had enabled the French armies in the Peninsula to draw towards each other in formidable strength; the corps of Soult, re-organized and recruited, that of Ney, and that of Mortier were but a few marches off, behind the screen of the Avila range. King Joseph at Madrid had a considerable force, which might easily join hands with Cuesta and Wellesley and Cuesta were in fact moving into the

midst of immensely superior foes, strategy difficult to understand and not to be justified. In the operations that followed, the French lost one of the best opportunities they ever had to destroy our power in Portugal and Spain; and the glitter of success ought not to blind us to the perils incurred by the British commander, from which he only escaped by accident. In the last days of July Joseph had come into line with Victor, who had been well-nigh caught. Their united armies were near Talavera, at least 45,000 strong; and pressing orders had been given to Soult, to fall on the flank of the allied army, with the corps of Ney, of Mortier, and his own, 60,000 excellent troops at least; a movement not in any way difficult, for it only required a short march, and the passes from the hills were but weakly guarded. These dispositions were by no means perfect, but they promised brilliant and decisive success; and they failed only through a series of mishaps and errors. On the 27th of July Victor attacked the Allies, in position at Talavera, between the Tagus on their right and a set of knolls and low hills on the left; and his first effort altogether failed, though he concentrated his main strength against the British troops.

The attack was premature and imprudent, for obviously it was the true course of the French to wait until the advance of Soult would enable them to assail the Allies, in front and flank, in overwhelming strength; but Victor, jealous perhaps of his colleague, and eager to win on his own account, insisted on renewing the fight on the 28th. The battle raged furiously for several hours; all the attacks on the British left were baffled; but the intrepidity and skill of Wellesley were taxed to the utmost to save the centre, and though he undoubtedly gained the day, the French army drew off unbroken. Ere long, however, the advanced guard of Soult made its appearance in the plains of the Tagus; the defeated army resumed the offensive, and in the first days of August a great French host, from 85,000 to 100,000 strong, was menacing the Allies in front and rear, and seemed as if on the verge of a splendid triumph. Had the counsels of Soult, to press on and attack, prevailed at this juncture, it is difficult to see how Wellesley and Cuesta could have escaped; and in that event the combined French armies would not improbably have over-run Portugal, and, perhaps, have even attained Lisbon. The danger, however, passed away; the French chiefs separated, and did nothing; and Wellesley, placing the Tagus between himself and his foes, made good his retreat across the frontier, though unsupported

by his worthless ally, whose conduct, it has been thought, was not free from treachery.

Wellesley received a peerage for Talavera, and the battle is honourable to the British army and its chief. The attacks of Victor were ill conducted, but fully 35,000 French soldiers were opposed to less than 20,000 Englishmen; and yet they retired from the field, defeated. Talavera, indeed, like Vimeiro before, had proved that the modern French tactics were not calculated to achieve success against those long in use in the British service, as regards defensive battles at least; columns and skirmishers failed to make an impression on the formidable line of the British infantry, a result which was seen two thousand years ago in the inferiority of the Greek phalanx to the Roman legion. Wellesley's first dispositions were not very good; he did not occupy the ground in force on his left; but he displayed great resource and skill on the 28th, and he deserved the victory he fairly won. His strategy, however, in this campaign was ill conceived, and, indeed, bad; and it can be explained, perhaps, on the supposition only that he had no idea what a great hostile force was ready to descend through the hills on his flank, as he marched in fancied security up the Tagus. As for the French operations, the plan of the double movement of Victor and Soult was not ill designed; but it was frustrated by the inconsiderate haste of Victor, who attacked before the approach of his colleague; and Napoleon truly observed that combinations like these are ever liable to mischance and failure, and that Wellesley ought to have been allowed to advance until the net was made certain to close around him. Wellesley, however, as it was, only just escaped. The wrath of Napoleon* knew no bounds, for a great opportunity had no doubt been lost; and the mistake of the English commander confirmed the Emperor in the low estimate he had formed of an enemy, who was anything but "the presumptuous, rash sciolist" he held up to ridicule after this campaign.

By this time Wagram had been fought. After the defeat of Austria, the whole Continent was more than ever under the yoke of Napoleon; Spain and Portugal were the only points where there was even a show of resistance to that colossal force; and as the Emperor poured fresh masses of troops into

* Napoleon wrote thus to Clarke 18th August 1809: "Quelle belle occasion on a manquée! 30,000 Anglais et 150 lieues des côtes devant 100,000 hommes des meilleures troupes du monde! Mon Dieu! qu'est ce qu'une armée sans chef!"—*Correspondence*, vol. xix., p. 362.

Spain, and announced that he would march on Lisbon in person, even the British Government, injured at home by the calamitous issue of the descent on Walcheren, began to quail and to wish to give up the contest. Yet Wellington—we now use the revered name—retained his calm and unbroken confidence; and though the subjugation of Spain seemed imminent—for three Spanish armies had been completely routed, and Andalusia was being over-run—he still contended that the defence of Portugal could be successfully maintained even in existing circumstances. After his retreat from the Tagus, he had returned to Lisbon; and, in the autumn of 1809, despite of the fears of ministers at home, and of the reluctant aid afforded by the Portuguese Regency—a corrupt and incapable body of men—he made preparations for the memorable stand in Portugal which has gained him enduring renown. His own army was now about 30,000 strong; the Portuguese army, drilled and led by Englishmen, had become a trustworthy force of about equal strength; and the addition of other Peninsular levies had placed him in command of more than 100,000 men. Such arrays, however, Wellington clearly saw could not hope to contend, even in Portugal, against the masses of which Napoleon disposed, unless means were taken to place a barrier in the way of the invaders, behind which the forces of the defence could be securely rallied. For this purpose he chose a position between the Atlantic and the mouths of the Tagus, covered in front by a succession of heights, and most difficult to turn on either flank; and thousands of labourers were quietly employed, with a secrecy which appears surprising, in constructing the famous Lines which will make the name of Torres Vedras long live in history. These great works formed a triple range of entrenchments, thirty miles in length on their exterior face and about eight in their second extension; the third was a vast fortified camp, from which the army, if forced, could embark; and the whole were protected by all the means available to the art of the engineer, redoubts, inundations, stockades, escarpments, and formidable batteries commanding vulnerable points. In this “impregnable citadel,” as has well been said, Wellington “deposited the independence” of Portugal at first, and ultimately, as it turned out, of Spain; and clinging to a rock on the verge of the ocean, while all was fear and mistrust around, he steadily confronted the might of Napoleon, the undisputed lord of a vanquished Continent. History has no grander instance of heroic constancy, and of self-reliance justified by the event.

By the early summer of 1810, the French armies in Spain had reached the enormous number of 350,000 fighting men, and Napoleon believed the whole Peninsula to be within his grasp. Engrossed, however, with his over-grown Empire, and meditating already the invasion of Russia, he had renounced the idea of crossing the Pyrenees, and conducting the approaching campaign himself; and this was one of the greatest mistakes of his life. The Emperor, shut out from the sea by England, and unable to procure intelligence in Spain, had not the least notion, strange as it may appear, of the real force in the hands of Wellington, still less of the Lines of Torres Vedras, and his plan for the contest, formed without knowledge, was misconceived and false to his own strategy. He believed that the British army was not 25,000 strong; he took no account of the Portuguese forces; he thought that the way to Lisbon was open, or barred only by natural obstacles; and instead of concentrating 200,000 men, in order to overpower Wellington and to turn the Lines on the landward side, at the verge of the mouth of the Tagus—a difficult but a possible enterprise—he disposed his armies in such a fashion that, as the event proved, they were largely wasted and were not strong enough on the decisive point on the theatre. Reasoning on his false data, he left Macdonald and Suchet to reduce the east of Spain; he allowed Soult to remain in the south with a great army, to no useful purpose, and calculating that this force would be more than sufficient, he placed 70,000 men in the hands of Masséna, by far the first of the imperial marshals, with orders to besiege the north-eastern frontier fortresses, and to “drive the English into their ships from Lisbon.” This dissemination of his military strength, so contrary to the principles of war, was due not to wilfulness or over-confidence, but simply to ignorance of the real facts; the Emperor knew that the British army was the one enemy he should first dispose of, and he conceived that he had made this result certain; but his reckonings and previsions were wholly wrong, and his projects were based on disastrous errors. The remarkable campaign of 1810 was to illustrate this in a most striking way, and forms Wellington’s true title to glory in war. Masséna began operations in the first days of June by investing Ciudad Rodrigo, a famous stronghold and the key of Portugal from the west of Spain, and as he was not to advance until after the summer heats, he conducted the siege in a leisurely manner, though disease and want had begun to prey on his army. Wellington, who had approached the beleaguered fortress at the head of about 30,000 men,

when made aware of the strength of the French merely observed the enemy from secure positions ; and all the devices of Masséna to tempt him to fight were fruitless against his steadfast prudence. Ciudad had fallen by the middle of July ; Almeida, a neighbouring stronghold, met the same fate, and Masséna had set his army in motion—it numbered about 60,000 men—to invade Portugal in the third week of September, the Marshal advancing along the Mondego, and the British commander falling back before him. By the 27th the French had entered a region of mountains and defiles between the great ranges of the Sierra Alcoba and the Sierra Estrella, and they found Wellington and his troops in position on the ridge of Busaco, awaiting their enemy. Masséna did not hesitate to attack, for he had a great superiority of force ; but once more the column was repulsed by the line, and the assailants only reached the well-defended heights to be smitten down by the steady British footmen. The Marshal, bold and persevering, now discovered a track which enabled him to move his army and turn Wellington's left. This was not the fault of the English chief, for he had given directions to secure the pass ; but his position had become no longer tenable, and the French entered Coimbra in high heart, and confident that they would soon attain Lisbon.

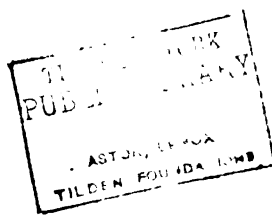
Masséna, utterly ignorant of what was before him, shared this hope with Ney and Junot, his chief lieutenants ; and leaving his wounded and sick men at Coimbra, spite of a guerrilla warfare gathering on his path, "the spoiled child of victory" pressed boldly forward, making for the Lower Tagus and the Portuguese capital. To his great astonishment, the hostile army, which had retreated slowly and made scarcely a sign, seemed suddenly to disappear from his view ; and Masséna only discovered the cause when, in the middle of October, he saw the Lines of Torres Vedras rising in formidable strength, and his enemy, he knew, was entrenched behind them.

Masséna's army had, by this time, been reduced to about 50,000 men, and his adversary had fully 100,000, within lines not to be attacked in front. Ney and Junot were for an immediate retreat, but the warrior of Zürich, of Genoa, of Essling, whose great merit was tenacious boldness, refused to listen to these desponding counsels. He searched the barrier before him at every point, and only fell back when the state of his troops had warned him that a further stay was impossible. In his march from Busaco, Wellington had given orders to ravage the country, and to destroy its harvests ; and though we may, perhaps, regret

that he had recourse to a barbarous and obsolete mode of warfare, it was very efficacious against invaders who had no magazines when they left the frontier, and relied for supplies on organized plunder. Within a few weeks after it had reached the Lines, Masséna's army, practised as it was in extortion and rapine, was half-famished ; and the Marshal recoiled from Torres Vedras baffled and indignant, but not disheartened. Concealing the movement with great skill, he established his troops in strong positions round Santarem, on the Lower Tagus, where he was almost inaccessible to attack, and where, at the same time, he had several lines of retreat, and he might receive aid from the French army in the South should it advance to the opposite bank of the river. Here the Marshal made a determined stand, disregarding the murmurs of inferior men ; he sent flying columns through the surrounding region to obtain means of subsistence by force or terror ; he constructed bridges to cross the Tagus, and he despatched Foy, a very able man, to Paris, to ask for reinforcements and to inform the Emperor of the critical state of affairs in Portugal.

Napoleon saw his messenger before the end of November, and it might have been supposed that the first of strategists would have sent every available man, as quickly as possible, to Masséna's aid, for everything, it had become manifest, depended on the course of events on the Tagus. But the Emperor was not pleased with the Marshal, on account of Busaco and the march from Coimbra. He persisted in holding Wellington cheap ; he refused to believe in the strength of the Lines ; he would see no foes but the British army, and the measures he adopted were quite inadequate to meet a situation already of peril. He ordered a detachment to be sent from the North of Spain, and to join hands with Masséna's army ; and he directed Soult to the Tagus from Andalusia, a distance requiring a long and arduous march, giving his lieutenant, besides, a dangerous latitude. The results, due partly to want of knowledge, but principally to obstinacy and unwise arrogance, proved most disastrous to the Imperial arms.

The detachment from the north reached Masséna's camp, but instead of being 20,000 strong, as had been promised, it was not 10,000, a reinforcement of little worth ; and Soult never approached the Marshal, either because the difficulties in his way were immense or because, as has often happened with French commanders, and was conspicuously seen in the Peninsular War, he was selfishly jealous of a superior colleague. Yet Masséna clung to his positions





WELLINGTON AT TALAVERA.

to the last. In this unfortunate campaign he showed the great qualities which have deservedly given him renown in history ; and it was not until the whole adjoining country had been turned into a desolate waste that he reluctantly yielded to dire necessity. He broke up from Santarem in March 1811, having, to Wellington's amazement, contrived to live for nearly four months on the tracts around him ; and his retreat was one of extreme difficulty, for the British army was soon pressing on his rear ; Coimbra had been taken, and swarms of partisans were gathering around on every side. The Marshal, however, proved equal to himself ; he conducted the movement with the greatest skill ; Ney distinguished himself in more than one action ; and the French army ultimately recrossed the frontier, having saved its honour, it may be truly said, but having injured its fair fame by atrocious excesses. It had been reduced to 40,000 men, in miserable plight and greatly demoralized ; a quarrel between Masséna and Ney increased disorder and destroyed discipline ; and Portugal had been set free, and, as time was to show, was not to be invaded by Frenchmen again.

Torres Vedras is Wellington's crown of fame, and gives him his true place among great commanders. The Lines might have, perhaps, been turned, had Napoleon put forth his whole strength ; but they baffled the force believed by the Emperor to be sufficient to conquer Portugal and to drive Wellington out of the entire Peninsula. The conception of the defence was very fine, for Torres Vedras was all but impregnable ; but the conception was nothing to the moral grandeur of the attitude of the heroic soldier, who from this rocky nook defied the mighty hosts which certainly might have been arrayed against him. It adds, too, to the just renown of Wellington that he met a foeman worthy of his steel. Masséna possibly made mistakes ; he ought not to have fought at Busaco ; it is astonishing that he was not informed of the Lines when he reached Coimbra, a few marches distant ; and he ought not, perhaps, to have quitted that place, leaving thousands of enemies gathering on his rear. But the Marshal gave proof of powers of a very high order ; he stood before Torres Vedras to the last moment, surrounded by, but overcoming danger ; his choice of his positions at Santarem may almost be called a stroke of genius ; and he conducted the retreat with consummate judgment. Apart, indeed, from the decisive effects caused by Wellington's masterly defence, the failure of the campaign should be ascribed, not to Masséna, but to the French Emperor. Napoleon, ignorant of the

real state of affairs, did not give his lieutenant a sufficient army; when made aware of the existence of the Lines, and of the strength of his enemy's forces, he took half measures, which proved abortive; and the condemnation he passed on his greatest Marshal was simply a device to screen his own errors, want of real knowledge, contempt of his foes, and directing war at a distance from the scene. The results of Torres Vedras were immense; the glory of the French arms was deeply tarnished; a great general had suddenly appeared, who had baffled completely the Imperial legions. Continental soldiers began to study the methods of Wellington with eager hope; the fears of the Government at home vanished, and it resolved to prosecute the war with vigour; the complaints of the Junta at Lisbon were silenced; and, above all, Wellington had been confirmed in the accuracy of his views respecting the contest, and became the master of largely increased resources. Secure for the present from attack in Portugal, he began to make preparations to resist the French along the western frontier of Spain; and he already hoped that the day was at hand when he might carry the war into Castile and Leon. The campaign of 1811 was a prelude to operations he had already planned; but it was one of many vicissitudes, and of doubtful fortune. Wellington commanding the resources of England from the sea, really wielding the power of the Portuguese Government, and turning to account the great advantage afforded him by a central position between enemies divided and scattered, besieged Almeida, Ciudad Rodrigo, and Badajoz, which, with Napoleon, he correctly judged should be mastered to make Portugal secure, and to open an avenue to enter Spain. He failed, however, against the two last strongholds; and though Barrosa and Albuera shed splendid lustre on the British arms, the campaign had no marked results, and Wellington was, more than ever, in the gravest peril. The power of Napoleon, though diminished by drafts from Spain for the invasion of Russia, was, in fact, still prodigiously strong; and had the Emperor directed it, he would, humanly speaking, have even now subjugated Spain and Portugal. Masséna, having reinforced his army, attacked Wellington at Fuentes de Onoro; the English only just escaped defeat, owing to a dispute between two French chiefs; and Wellington, indeed, has fairly acknowledged that "had Boney been in command" he would have lost the battle. On two occasions, moreover, the British commander might have been overwhelmed if ably assailed. Marmont—who replaced Masséna, unjustly disgraced—and Soult assembled a great army to relieve Badajoz, and ought to

have won a real victory had they fallen on Wellington ; and Marmont might soon afterwards have attacked his enemy at Fuentes Guinaldos with fourfold numbers. But the tide in the affairs of men was setting against Napoleon, and was leading his sagacious foe to fortune. The conditions of the war, which he had clearly foreseen, made the dangers of Wellington less than they seemed ; the French Marshals, far apart from each other, and unable to feed their troops in a wasted country, could not draw together their divided forces for anything like a well-combined movement ; and their increasing discords, the neglect of their master to examine thoroughly the situation in Spain, and, above all, the ascendancy of success already gained by the British army and its chief, told with powerful effect on the course of events.

During the last months of 1811, the British chief made great preparations to renew his efforts against Ciudad Rodrigo and Badajoz. He had secretly brought up a powerful siege train to the frontier without the enemy's knowledge ; he had made his communications with the sea easy, by opening the navigation of the Upper Douro ; and the position of the French armies on the theatre of war remarkably favoured his audacious enterprize. The forces of Napoleon in Spain still numbered at least 250,000 men ; but part of Marmont's army had been detached to the East ; Soult was in cantonments around Seville ; no other French army was near Portugal ; and the fortresses had been left almost uncovered, for the Emperor had not the least idea that Wellington had the means to besiege and take them. The English commander first pounced on Ciudad, and captured it, after a furious assault, in the first days of January of 1812 ; and in a few weeks he had triumphed at Badajoz, the heroism of the attack and the skill of the defence forming a grand episode of the Peninsular War. His troops suffered enormous losses, and the British engineers were not, perhaps, as experienced as the French, in this part of the craft ; but Wellington's only chance was to hurry on the attack ; two relieving armies were not distant ; and he properly made sacrifices for a great object. The fall of the two strongholds incensed Napoleon ; but here again he had himself to blame ; Marmont had fairly warned him of the danger at hand ; and this is another striking instance of his ignorance of what was going on in Spain, and of the mischief of regulating its affairs from Paris. The success of the British chief at Ciudad and Badajoz laid open the Spanish frontier from Portugal, and he resolved to carry out his project of entering Spain ; for though his army was

very inferior in force to those of Marmont and Soult combined, the conditions of the war remained in his favour.

The marshals, as in 1811, were widely apart; they could hardly unite their armies in a ruined country; and their enemy held a position between them with an army whose wants were well supplied, and with little apprehension that the hostile forces in his front could be largely increased. The first care of Wellington was to seize the passages on the Tagus which enabled Soult and Marmont to communicate with each other by a short line; and then, leaving a detachment to observe Soult, he crossed the frontier in the second week of June and marched against Marmont with about 40,000 men. The marshal fell back behind the Douro, in order to collect his scattered forces, abandoning works which he had constructed as a centre of defence, in the place of Ciudad; but he was a brilliant, if not a great chief; and he quickly showed that he had no notion of abandoning the initiative to the British general. Marmont recrossed the Douro on the 16th of July, about equal in force to Wellington, but the passage was only a feint; he crossed the river once more, and made for Tordesillas, an able movement which brought him near to reinforcements coming from Madrid, and threatened his adversary's right and communications with Portugal. A series of fine manœuvres followed, the French chief ever trying to outflank his enemy, and the English seeking to cover his line of retreat; and there can be no doubt that in this game of marches, the French army was the more agile of the two, and Marmont gained a distinct advantage. By the 22nd, the marshal had nearly reached the road from Salamanca to Ciudad Rodrigo, the main communication of his foe with the frontier; and Wellington was about to decamp as he best could, when a single false movement gave him a chance and enabled him to win a glorious victory. Marmont, eager and impetuous, and perhaps jealous that Jourdan, the leader of the succours at hand, would claim a share in the hoped-for triumph, incautiously extended his left too far, in order to cut off the retreat of his enemy. A gap was thus made in the French line; Wellington seized the occasion with his accustomed promptness, and he instantly directed a fierce attack against his antagonist's exposed centre. The marshal at this moment fell wounded, but his fall could not have changed the event; his able lieutenant, Clausel, made a fine effort to reform the French on a new position, and even assumed an offensive attitude, but the error had been made, and been turned to account; and though the French made a really

gallant stand, their weakened line was pierced through and through, and they were forced to abandon the fatal field, where Marmont had hoped to avenge his countrymen for a long succession of repeated defeats.

Salamanca and the operations before it are characteristic of Wellington as a chief. He was certainly out-generalled in the first movements, mainly because the French marched better than the British army; but probably he would have escaped unscathed, though Marmont had gained a position on his flank, had he been allowed to retreat unmolested. He was, however, unwisely attacked and in a reckless fashion; he instantly fell on the enemy's centre, with the quickness and daring which marked his offensive movements on the ground, and he made the French general pay dearly for venturing on a flank march within reach of his enemy. Salamanca, in fact, has a strong resemblance to Austerlitz up to a certain point, but it wants the grandeur and effect of Austerlitz; and in this, as in all instances, Wellington showed that he could not follow up a victory with the energy and wonderful art of Napoleon.

As for Marmont, he was at first dexterous, but he made an immense mistake in extending his left. Like Victor at Talavera, he should have waited until his reinforcements had come into line; and this, no doubt, is another example how* the characteristic envy of French commanders had the worst effects in the Peninsular War. The results of Salamanca were very great, though Clausel rallied the beaten army with an ability deserving of high praise, and was soon out of the reach of pursuit; the battle exposed the long line of the communications of the French with Madrid, and the prospect of a formidable attack on this vital point, as Wellington had foreseen from the first—and this, too, was Napoleon's judgment—placed the entire fabric of the Emperor's power in the Peninsula in no small danger.

Napoleon was now far away in the wilds of Russia; and in his absence the conduct of the French chiefs was marked by precipitate fear and haste, which, critical as the situation was, was unwarranted, and does them no small discredit. Joseph fled in inglorious haste from Madrid; the forces of Clausel and those in the north were drawn together to hold and guard the communications between Bayonne and Castile; Suchet in the far east was directed to move; and Soult, in the south, received positive

* Napoleon received the news of Salamanca on the eve of Borodino. His criticism of Marmont is striking and just.

orders to evacuate Andalusia and to join the King, though the Marshal was pressing the siege of Cadiz and had matured projects, not ill-designed, for invading Portugal while Wellington was away. A single well-aimed stroke had, in short, imperilled the whole position of the French in Spain, and their operations were so faulty that their domination seemed about to collapse.

In this state of affairs a single incident caused, for a time, a turn in the tide of fortune, and even placed Wellington in such straits that he would have been, not improbably, crushed had Napoleon commanded the French armies. He had entered Madrid in triumph in the middle of August, but he was soon on the track of the retreating enemy; and having driven Clausel's army before him, he sat down before Burgos towards the close of September, hoping to master the great avenue from France into Spain. The fortress was small, but had an able commandant; the British chief had scarcely a heavy gun; the garrison made a stern resistance, and after fierce efforts and very great losses, the assailants were compelled to raise the siege and to fall back before a host of enemies.

The annals of war present few such examples of the value of a well-defended stronghold at a critical juncture. Burgos had held out for a whole month. The time thus gained enabled Soult to come into line with the other French armies being collected in Castile and the north, and Wellington had no choice but to retreat at once before the huge masses directed against him. He conducted the movement with real ability, but his troops were to a great extent demoralized, and on one occasion the English commander was saved by a mere chance from the gravest danger. His army had reached Salamanca by the middle of November; it was within easy reach of the united French armies, twofold probably, at least, in strength, and had the French generals fallen boldly on they ought to have gained a decisive victory. Jourdan eagerly counselled the true course, but Soult, by nature rather a thoughtful strategist than an energetic and determined soldier, and borne down by the ascendancy of the British arms, insisted on merely pressing the retreat, and Wellington was soon across the Spanish frontier. The Marshals had lost another of the great occasions afforded them in the Peninsular War.

The campaign of 1812, notwithstanding the disastrous retreat from Burgos, was nevertheless ruinous in its effects to the French. Salamanca had been a decisive defeat; the Imperial commanders had not attacked Wellington, falling back with a much weaker force; the invaders had permanently quitted the south; above all,

the precarious nature of Napoleon's power in the Peninsula had been clearly established. In this position of affairs, the tremendous tale of the destruction of the Grand Army in Russia fell with immense effect on the minds of men ; it raised the hopes of Wellington to the highest pitch—he had always foretold that some catastrophe would befall Napoleon in his career of conquest—it animated his troops with fresh confidence ; it sent a thrill of exultation through Spain and Portugal ; it awed and paralyzed the leaders of the French armies. By this time Wellington had all England at his back ; he was supreme in Portugal, and swayed the Regency by the glory of success, by his administrative power, by his impartial justice to the Portuguese race ; and he was made Commander-in-Chief of the Spanish armies, and disposed for the first time of the military strength of Spain, in spite of the clamour of factions in the distracted Cortes against a “heretic and domineering foreigner.” He was now able to place in the field forces nearly equal in numbers to his foes, and in the spring of 1813 he had his preparations made for a great effort to set the Peninsula free. The Imperial armies, however, were still formidably strong, from 190,000 to 200,000 men ; they were superior to the Spanish and Portuguese levies, and as we look back at the course of events, we see that even now, had they been ably led, they possibly might have achieved success, and certainly might have avoided disaster. But they were ill-distributed on the theatre of war ; Suchet, in the east, had by far too large a force ; Soult had left Spain, deprived of his command ; Jourdan and Joseph were very inferior men ; the strength of the army confronting Wellington on the frontier was by no means sufficient ; the guerrilla rising was more fierce than ever ; and the French commanders had lost hope and confidence. The general plan of Wellington was to assail the enemy from many points, in order to distract and detain his forces, and at the same time to fall in great strength on the exposed line of the communications of the French ; and though faults may, perhaps, be found in his strategy, the conception was fine, and was admirably carried out. Suchet was held in check by Murray with a small body of men ; Joseph, who had returned to Madrid, was menaced from the south ; a large Spanish army was assembled in the north ; and, meanwhile, Wellington prepared the master stroke on which he relied for final success. His army, now about 90,000 strong, advanced from the frontier in the last days of May, divided into three great masses on a wide front, with hill ranges between ; its chief gave an opportunity, perhaps, but there was no great warrior to cross his path.

It had soon mastered the line of the Douro, driving before it foes much weaker in numbers; it gradually united, joined hands with the levies of the north, and found a new base on the Biscayan seaboard in the English fleet; and then it seized the main avenues between France and Spain, and sped in full force to the Upper Ebro. This formidable movement compelled Joseph to evacuate Madrid, and to draw together all available troops to attempt a defence; and the French armies in Castile were ere long concentrated around Vitoria upon the Zadorra—confused masses, already disheartened, and burdened by *impedimenta* such as never before weighed down unlucky troops in retreat. The battle that followed, fought on the 21st of June, was of enormous importance in its results, but has little interest for the student of war. The French were, perhaps, 70,000 strong; but 15,000 men had been detached to guard convoys, and to secure a retreat; the English commander had about 80,000, and the event was never for a moment doubtful. Nothing could stand against the onset of the British troops, superior in numbers, and flushed with success; their foes fought well, as they always did, and Reille, the descendant of an Irish exile, distinguished himself by skill and valour; but the main road to Bayonne was lost, and the French were gradually thrown back on the mountain roads that extend to the frontier. The beaten army, however, was not hardly pressed; it effected its retreat in fair order, but it lost nearly all its guns and *matériel*, and it left behind the spoils of a ravaged country, accumulated through years of unscrupulous plunder, and strewn over the field in immense profusion.

Vitoria, fitly called the Leipsic of the south, drove all the French armies out of Spain, with the exception of Suchet's force in the east, and the garrisons of Pampeluna and San Sebastian, reinforced by Joseph before he crossed the Pyrenees. Napoleon, by this time, had made a prodigious effort to retrieve the disasters of the campaign in Russia; France had answered his summons to the field with energy; and he had won great victories at Lützen and Bautzen, followed by the suspension of arms at Poischwitz. Austria now held the balance between the belligerent Powers; she had long inclined to the allied cause, but she dreaded Napoleon, and held aloof until Vitoria determined her purpose and she threw in her lot with the Coalition which, in a few months, overthrew the Emperor. The campaign of 1813 in Spain, therefore, was really of supreme importance, and a word of comment should be pronounced upon it. The general plan of Wellington was, perhaps, to

be justified, as affairs stood ; it was his only offensive combination on a grand scale ; it was perfectly executed, and it was completely successful. Yet it was no masterpiece of science or genius. The movements by which the old base of Portugal was thrown off, and a new base acquired, and by which the French armies were ever outflanked and their communications threatened and seized, and the march on Vitoria, have been justly admired ; but the wide dislocation of Wellington's forces as they left the frontier was, in theory, a fault, and it would have given Turenne or Napoleon an immense chance, which they would have turned to such advantage that the course of events might have been changed at the outset. The splendour of the result cannot conceal the fact that the issue of the campaign was rather due to the incapacity and the demoralization of the French commanders than to conspicuous excellence in the strategy of their foe. Could they have defended the line of the Douro, as Bonaparte had defended the line of the Adige, nay, had they fallen back on the Ebro in time, and concentrated their still fine armies for a decisive battle on equal terms, they might even yet have repulsed Wellington, and assuredly they would not have lost Spain. This was Napoleon's judgment, and, in this instance, I think it certainly was correct ; his views on the military situation in Spain in 1813 are worthy of him ; and here, again, had he been in command, events would probably have taken a different turn. He was naturally indignant at the rout of Vitoria ; and having summarily got rid of Joseph and Jourdan, he sent Soult, with extensive powers, to the Pyrenees, to take the command of his shattered forces, and to endeavour at least to defend the frontier. The next phase of the contest is of extreme interest, and deserves careful and impartial study. Soult found the French army—a confused wreck of armies—in a pitiable state of want and despondency ; and his first care was to secure a base at Bayonne, and to reorganize and restore his defeated forces. He effected a great deal in a few weeks, for he was an administrator of no ordinary powers ; and by the close of July he had his preparations made to assume the offensive with happy promise.

At this time the forces of Wellington—altogether about 70,000 strong—were before Pampeluna and San Sebastian, and along the range of the western Pyrenees ; and this gave Soult—he was about equal in force—an extremely favourable opportunity to attack, for he commanded the passes which led from the plains. He concentrated a very superior force against his adversary's right, concealing the movement with great skill ; and his first operations had real

success; he fairly bore back the weak hostile wing, and he nearly reached Pampeluna and relieved the garrison. But Wellington, always ready on the ground, was too quick for an enemy able in thought but in execution rather dull and weak; he raised the siege of San Sebastian and reinforced his right; Soult attacked at Sauroren, and was repulsed, one of his lieutenants, D'Erlon, being not up in time, on this as on a far greater occasion; the ascendancy of unbroken success did the rest, and in a subsequent effort the French Marshal was nearly surrounded at the head of his troops. He recrossed the frontier, a well-designed plan having ended in heavy loss and discomfiture.

The English commander, free from attack for a time, now resolved to take Pampeluna and San Sebastian before attempting to invade France. This conduct has been described as timid, and it enabled Soult to prepare large means of defence, but obviously it was judicious and right; the issue of the war in Saxony was still uncertain, and should Soult be joined by Suchet they would be in great strength. San Sebastian made a protracted resistance, but the place was stormed in the second week of September, Soult having tried in vain to relieve it, and Pampeluna fell at the close of October. Wellington had invaded France a short time previously, and it should be observed that he crossed the frontier before Leipsic, and months before the Allies were on the Rhine. The time spent in the sieges had, nevertheless, given Soult opportunities which he had made the most of; he had constructed lines on the Bidassoa and Nivelle, the last almost as strong as those of Torres Vedras, and he awaited his enemy in a situation like that of Villars in 1710-11. His army, however, had lost heart, and was crowded with rude levies and mutinous Germans; he had not the inspiration of the renowned Villars, and nothing could stand against the overpowering force of the British soldiery in the full pride of victory. Wellington carried the lines in the second week of November, displaying great skill in his dispositions for the attack, and before long he had approached Bayonne, on the confluence of the Nive and the Adour, where Soult had entrenched himself in very strong positions. The British commander, perhaps over confident, perhaps from the want of strategic genius—this undoubtedly was characteristic of him—escaped narrowly a severe reverse; he had divided his army upon the Nive, and Soult, availing himself of his command of the rivers, and of the interior line he possessed, fell on his adversary with skill in design, and tried to overwhelm his separated foes. The peril of Wellington

was great for a time, but Soult had the manner of Napoleon, not his masterly power; he did not press the attack home, and his troops were beaten by the tenacity of the British footmen. A pause in the operations followed, and had the Emperor, even at this supreme crisis, ordered Suchet to come into line with Soult, abandoning Spain, now really lost, the French would have been superior in force to Wellington, and affairs might have taken a different aspect. But Napoleon would strike for his whole Empire, a false conception which mars the splendour of the memorable campaign of 1814; he left Suchet in Catalonia, holding the fortresses; the two marshals, besides, did not agree, with the usual tendencies of French commanders; the organized plunder of the French army, in marked contrast with that of the Allies, exasperated the populations of the south against it; the Royalist party began to lift its head after the first defeats of Napoleon in Champagne, and Soult was left isolated to resist Wellington amidst the ruin and crash of a perishing Empire. The British general resumed the offensive in the early spring of 1814; he had won golden opinions, even from the invaded Gascons, for the strict discipline he made his troops observe, for the exactness with which he paid for supplies, for his humane government of the country he held, and though he was not without real difficulties of his own—he was condemned in the Cortes and denounced in Portugal, and he actually sent back a large Spanish detachment because he could not control their excesses—still he was greatly superior in strength to his foe, and his arms were obviously on the verge of triumph. Nevertheless, Soult made an admirable stand; his army was being constantly weakened by drafts for the army on the Marne and Seine; it was oppressed by the prospect of coming defeat, and yet the Marshal proved that he was a real chief, and this is the best part of his chequered career. He disputed stubbornly every inch of the country between the lines of the Adour and the Garonne; he kept Wellington many weeks in check, and though ultimately repulsed with loss, he very nearly won a battle at Orthez, and at last he took a formidable position at Toulouse, still doggedly contending against adverse fortune. The battle was fought on the 10th of April, unhappily after peace had been made; superiority in numbers and the moral power of success explain, and partly justify, Wellington's tactics; but he risked a flank march of peculiar danger, under the eye of an enemy watching to strike, and had Soult struck home at the decisive moment he probably would have won a victory. The Marshal, however, as was his wont, was

remiss in action; the French army was unequal to itself, and Wellington forced his adversary to leave Toulouse, though the battle was really nearly drawn. Toulouse, indeed, adds nothing to his renown as a warrior; his true titles to fame in this campaign are his administrative virtues, and the most significant fact that he detained forces in the south which might have turned the scales of fortune in the struggle in Champagne.

Wellington was back in England in 1814, justly greeted by the acclaim of the nation, raised to the highest honour the Peerage can give, and ever since known as "the Duke" to his countrymen. His exploits, indeed, had been truly great; with an army, swelled no doubt by auxiliaries, but seldom numbering more than 80,000 British troops, he had destroyed the power of Napoleon in Spain and Portugal, backed by 300,000 French veterans, had defeated the best Marshals of France one after the other, had fought his way from the Tagus to the Garonne, had thrown his sword, with effect, into the balance of events trembling in the east of France, had ruled the Peninsula with a far-sighted wisdom, spite of the passions of faction, admired everywhere. The fame of Wellington as a commander depends, beyond question, on his direction of the Peninsular war; and an impartial judgment should be pronounced upon it. We may pass by enthusiasts who ascribe his success to genius never approached in his day, and the notion current seventy years ago that an English soldier can beat three Frenchmen; and we may equally reject the French delusion that Wellington owed everything to the freaks of Fortune. It must be recognized that in the war, small as his force was compared to his foes, he had certain advantages of peculiar value; he had the command of the sea, and of the resources of England; his position in Portugal was formidably strong; he was supported by a vast national rising; he stood in the centre of divided enemies; whereas the French armies, large as they were, had most vulnerable communications to guard, were exposed to swarms of destructive guerrillas, were necessarily separated by vast hill ranges, and, owing mainly to the Napoleonic system of warfare, were unable to muster for any time in strength because they could not subsist in a barren country. These conditions of the strife were all in favour of the British chief, and told powerfully; but this does not in the least detract from his merits; he anticipated them with prophetic insight, and they simply made his defence possible; just as Napoleon's choice of the Adige enabled him to baffle the whole power of Austria. It should be admitted, too, that throughout the

contest he was greatly seconded by the shortcomings of his foes ; more than once he ought to have been overwhelmed or crushed, but for the miserable discords of the French marshals ; and Napoleon himself played into his hands by his ignorance of events, by his lust of conquest, by the false system of directing war from an immense distance ; above all, by his contemptuous disregard of an adversary most unwisely scorned. Yet this, the only meaning of what has been called the "good fortune that attended Wellington," does not lessen his title to fame ; I certainly think, had he had to encounter Napoleon with all the Peninsular armies he would have been forced out of Spain and Portugal, nay, he might have been beaten in 1811, 1812, and 1813 ; but, tried by this test, we might just as well deny Napoleon genius in war ; he would not have won Rivoli, Jena, Austerlitz, had he been opposed to really great captains. Undoubtedly, moreover, in these campaigns the generalship of Wellington was not of as high an order as some eulogists have made it out to be ; he committed grave strategic mistakes ; his plan for the offensive on a great scale, and at a distance, is not very striking—I refer especially to 1813 ; his tactics were sometimes far from perfect ; he was not masterly in following up success ; there is something narrow and contracted in some of his movements. But when this has been said, he gave proof of genius in defence of the rarest kind ; his campaign of Torres Vedras reaches the sublime, in conception and execution alike ; he was admirable in rapid and bold attack ; he was almost always great on the field ; his tenacity and judgment are above praise. Add his most remarkable administrative powers, his capacity for ruling foreign races, and his moderation in the hour of success, resembling in this the great warriors of Rome, and we shall understand how he will live in history. A word, too, should be said on his British troops ; that army—largely his own creation—which he said—and Wellington was no boaster—"could go anywhere and do anything." From the first moment his soldiery showed the high qualities of their race, endurance, vigour, fierceness in attack, perseverance in defence, and the skill in the use of their arms of the archers of Crecy. The army, however, was for a time ill-organized ; its movements were slow, and it was overburdened with camp-followers and *impedimenta* ; its officers, heroes in the fight, were seldom skilful ; in short, it was an imperfect instrument war. It is one of Wellington's distinctive merits that he made that army, always superior to the French in discipline, fortitude,

and steadiness in the field—and this, indeed, is the true reason why its line was able to defeat their columns—equal to the best of Napoleon's armies—the Emperor has made the admission himself—in readiness, in training, in skill in manœuvring; though Salamanca tends to show that in the power of movement it was not the equal of its most agile foes.

Great as a soldier, but certainly greater as a man, it was the destiny of Wellington in 1815 to meet the most perfect master of modern war. The campaign of Waterloo belongs to the career of Napoleon, and in a sketch of his extraordinary deeds I have endeavoured to retrace its main features. Idle flatterers and the idolaters of success have given Wellington the palm in this mighty conflict, but he knew that he was outmanœuvred, and he did not claim it; and he disliked the subject, when all the facts were known, though he wrote on it in extreme old age. The simple truth is that Blücher and Wellington, considering the enormous hosts being arrayed against him, did not think that Napoleon would spring on Belgium; even their own forces, they well knew, were nearly double those of their foe; and though they made dispositions on the supposition of an attack, these were ill-conceived and essentially faulty. Their armies, in the first place, were spread along an immense line, with divergent bases; in the second, they were scattered up and down Belgium; in the third, they were far too near the frontier, at the points of concentration marked out for them; and in the fourth, the two chiefs were too far from each other, and could not communicate without perilous delays.

Availing himself of these palpable mistakes, Napoleon broke in on the exposed centre of his adversaries with a grandeur of design and a skill in execution never surpassed; he was close to their weak line on the 15th of June, and a single march had placed them in extreme danger. Then came the confusion and the divided counsels common with allied chiefs, and foreseen by their foe. Blücher rushed hastily to confront the Emperor before his army had been drawn together; Wellington, misconceiving the real state of affairs, stopped, hesitated, and left a wide gap open; and an opportunity was afforded to the General of 1796, as favourable as ever was won by genius. But for a series of misadventures I have noticed elsewhere, he ought to have overwhelmed Blücher with ease on the 16th; and, in that event, nothing could have saved Wellington, though the French were

only 128,000 against 224,000* men. Strategy had only just missed one of its grandest triumphs; in fact, the allied chiefs were all but checkmated, though Wellington made an able stand at Quatre Bras, and this went some way to baffle the Emperor. Napoleon was given another chance on the 17th, by the double retreat on Wavre and Waterloo, which might have proved fatal to both his adversaries; but he was not well, and his lieutenants failed him. Soult, always indolent, was greatly to blame; the retreat of the Prussians was not followed up; Grouchy was detached late to hold Blücher in check; and when Napoleon, true to the principles of the art, turned against Wellington and attained Waterloo, he was not aware that the Prussians were near and were ready to unite with the Duke, mainly owing to the faults of the incapable Grouchy.

The morning of the 18th saw Napoleon and Wellington confronting each other for the first time; the state of the weather, no doubt, gave the British chief an unforeseen advantage. The Emperor's plan of attack was perfect; but Wellington's dispositions were also excellent, except that he made the strategic error of leaving a large detachment behind at Hal. In the great battle that followed Napoleon was ill, and the tactics of the French were incoherent and bad; the genius of Wellington in defence reappeared, and shone out with conspicuous lustre; and this great quality largely redeemed his shortcomings in this memorable campaign. He fought Waterloo on the assumption that Blücher would join him early with the whole Prussian army; no aid reached him until nearly 5 P.M.; Ziethen and Pirch, who decided the result of the day, were not on the field until after 8 P.M.; and yet Wellington, with a very inferior army, contrived, during seven long hours, to resist successfully the Imperial host, and he had fairly repulsed the attack of the Guard before Ziethen and Pirch dealt the final stroke. His intrepidity, his tenacity, his tactical power on that memorable day were worthy of him; no other general on the allied side, it may confidently be said, would have made such a stand; and though he would almost certainly have lost the battle but for the arrival of Bülow in the early afternoon, still the defeat would not, I think, have been crushing, and Napoleon must have at last succumbed. Nevertheless, Waterloo, as I have endeavoured to prove, was decided by operations outside the field. Had Grouchy been equal to his appointed task, Blücher ought not to have been

* I refer to the combined forces of the Allies. The Duke's army was from 100,000 to 106,000 strong, counting all the troops in Belgium.

able to reach his colleague ; the strategy of Napoleon throughout the campaign, spite of mistakes and failures, well-nigh triumphed ; and the one merit of Wellington—and it was immense—was the masterly defence he made at Waterloo.

The Duke commanded the Army of Occupation in France, after the second fall of Napoleon and the return of the Bourbons, and he admirably fulfilled a most arduous mission. He has been condemned for not saving Ney ; but he had no right to interfere with the Government of France, and he showed characteristic tact and clemency in his relations with the French army, the Court, and the nation. His grand civil career begins at this point ; but I must pass from it with scarcely a word of comment. He was a representative of England at the great Congress which met at Vienna to resettle Europe ; and he was engaged in other important missions of the kind. In these diplomatic duties he was, no doubt, inferior to Marlborough in suavity and delicate art ; he was sometimes, indeed, outspoken and blunt, but his simplicity, his candour, his ripe judgment, made him a negotiator of a very high order. His position as a statesman was noble and striking. His nature and profession drew him to the Tory Party, and he was for years its acknowledged head ; his ideal was a strong aristocratic government ; he detested modern Radical cant and theory ; and though he was a Constitutional politician in the broadest sense, he did not understand the play and tendency of popular forces. But he had no sympathy with extreme Toryism ; he ridiculed the Holy Alliance and its dreams ; he knew how to make concessions in time ; no reformer more sternly put down abuses ; he was always Conservative, but wise and moderate. He commanded the army for some years ; in this high office, unlike Turenne, with whom he had certain points in common, he was not in advance of the ideas of his time ; he was rather obstinate and narrow in his views ; but one great work he at least prepared ; he urged the necessity for assuring the defence of England, and this generation at last has accepted his teaching. He spoke very often in the House of Lords ; as an orator he had no accomplishments, but it was said he always "hit the nail on the head," and his sagacity was, perhaps, the more noted because it was not set off by eloquence. As he grew old, he became the national mentor ; his counsels were felt to be words of wisdom, and his place in the State was one of commanding dignity.

He passed quietly away in 1852 ; England mourned him as her foremost citizen, and she justly regards him as the most

illustrious of her worthies of the nineteenth century. It ought to be possible to pronounce a sound judgment on his military career, after all these years, and yet impartiality is still difficult. Wellington was endowed by nature with real wisdom, with strength of character seldom equalled, with singular moderation and calmness of thought, and yet with a rapid intelligence and clear insight. She denied him imagination, passion, and, in some measure, sympathy; and we see these excellences and defects in his life as a warrior. As a strategist, on the offensive, he stands low; for strategy, in this aspect, must see into the unknown, and requires a fiery energy he did not possess; and he was incapable of such exploits as the campaign of Marengo. In defensive strategy, however, he has been never excelled; for here the elements of the problem are easier to ascertain, and sagacity and firmness are most effective; and his campaign of Torres Vedras is, beyond comparison, the finest specimen of defence, in the strict sense of the word, that was seen in the Great War with France. As a tactician he was admirable in attack and defence, for when the field was before him, his promptness, his coolness, his constancy, stood him in good stead; but he was, on the whole, better in defence than attack; his Salamanca falls short of his Waterloo; and he was inferior to some tacticians in his arrangements on the ground, and, conspicuously, in following up a victory. Though there was something contracted in his exhibitions of the art, he has no doubtful place among great captains; and yet Wellington was greatest, perhaps, as a citizen, by reason of his profound wisdom, his administrative powers, his statesmanlike views, and, above all, his capacity for ruling alien races. In one quality of a chief he was, no doubt, deficient. He was respected, but not beloved, by his officers and men; he could not command their hearts like Napoleon or Condé, and this was largely due to the Spartan turn of character which distinguishes the aristocratic caste of Ireland. Taken altogether, he was one of the most illustrious men who have ever appeared on the stage of History; his grand life justified the poet's epitaph: "O Tower full square to all the winds that blow!"

In the Cavalry Ranks;

OR, WHY NOT ENLIST AS A SOLDIER?

BY A CORPORAL OF DRAGOON GUARDS.



GOOD deal of attention has of late been bestowed in one way or another upon the lower grades of the army, the way they are fed and housed; and as a rule it is with the darkest side of the question with which the writers have concerned themselves. It is noticeable, too, that the cavalry has rarely been mentioned; the generic "Thomas Atkins" of the line having attracted by far the greatest share of attention.

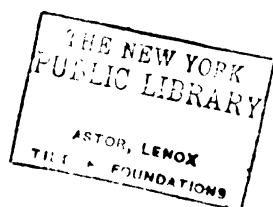
It will be the object of this paper to give a plain and unvarnished statement of the actual daily life of a cavalryman in time of peace.

Considering the paucity of professions open to those who cannot afford the length of time or the money which it is oftentimes necessary to spend before obtaining a livelihood, it is somewhat surprising that so few in proportion of our great middle class turn their attention to the army. It is more than probable that many, whose thoughts may have turned in that direction, have been deterred from taking any further steps in the matter from that dislike to a standing army which has always been inherent in Englishmen, and which the victories even of a Marlborough or a Wellington have hardly sufficed to erase—a dislike and distrust which has been kept alive by the generally accepted reports, and, I am sorry to say, written accounts, of the usual character of "Thomas Atkins."

The British soldier is too often looked upon as an unmitigated blackguard, or, at best, an arrant humbug, sprung from the dregs



A DRAGOON GUARD.



of the population—the loafer of the village ale-house or the brawler of the town.

It may come as a surprise to many to learn that there are doing duty in the ranks a by no means small percentage of men of good birth and education, and that the general character which the private soldier bears is one for steadiness and good-will. There are, unfortunately, black sheep, and some very black sheep indeed, in the army, and as these obtain often a very wide advertisement through the medium of newspaper reports, they are looked upon by unthinking people as a specimen of the army at large; just as some say that the whole Church of England is rotten to the core, owing to the evil-doings of some defaulting minister.

We will suppose the preliminary steps of being declared physically fit by the doctor and of “swearing in” to have been satisfactorily undergone, and will start at once with the duties which have to be performed, first by the recruit, secondly, by the fully-trained trooper.

The recruit on joining his regiment will be first taken to the commanding officer, with whom rests the power of finally declaring him suitable for his own particular regiment. He will then be taken to the regimental store, and have his clothing and kit issued to him. Of this, a fuller description will be given later.

The arrangement of the hours of the day is essentially the same throughout the cavalry, the principal trumpet soundings being as follows :—

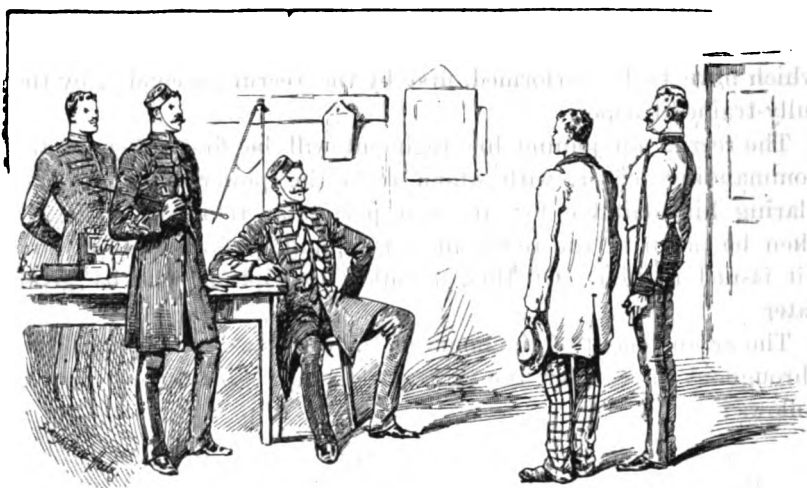
Trumpet Call.	Time of Sounding.	
	1st March to 31st Oct.	1st Nov. to 28th Feb.
Reveill� - - -	5.30 A.M.	6.0 A.M.
Morning stables - - -	5.45 A.M.	6.15 A.M.
Breakfast - - -	7.45 A.M.	8.0 A.M.
Midday stables - - -	- - 11.0 A.M.	
Do. do. (officers) - - -	- - 12.0 noon	
Dinner - - -	- - 1.0 P.M.	
Evening stables - - -	- - 5.30 P.M.	
Tea - - -	- - 6.15 P.M.	
Lights out - - -	- - 10.15 P.M.	

If there be no field movements to take place during the day, the horses are ridden to exercise from 8.30 to 10 A.M. When the troops have been to the field, stables sounds fifteen minutes after their return to barracks.

Having received his clothing, the recruit will commence attend-

ance at drills—riding and foot-drill. On first attending stables he will be placed with one of the batmen, who have charge of two horses. One of these horses the recruit will ride, and in return for the assistance he gives the batman will receive practical instruction in grooming and in cleaning and putting up the saddlery.

During the earlier lessons in riding, the recruit will attend the riding-school before breakfast, from six o'clock to about a quarter-past seven. These early lessons are provocative often of a good deal of amusement, from the efforts of some of the recruits to retain their seat. A fall harms no one, as the floor of the school is a foot deep with tan, and the horses, being fully trained, never kick or tread on a man when down.



Mr. Knight's appearance.

No saddle is used by recruits during the earlier lessons. For the first month they ride with a numnah only, and use the common bridoon bit. By having no stirrups the recruit learns to balance himself well on the horse, and being obliged to grip the animal tightly with his legs, finds out the power that pressure of the leg on the side of the horse has in guiding him. It is of course the great object in military equitation to teach the men not to use their hands in guiding or turning a horse more than is absolutely necessary, as these are required for the handling of their weapons. When the recruit is considered to have a fairly secure seat on horseback, he is promoted to a higher class and rides with a saddle, but still without stirrups. It is during this period that

he is first instructed in the "rides," various movements which culminate in the "double" or "musical ride," familiar to frequenters of military tournaments.

Finally comes promotion to the first class. The recruit now rides with a complete saddle, and in this stage he receives the most careful instruction not only in the management of his horse but also in the use of arms, practical use of the latter being taught by means of "heads and posts." Until a recruit is perfect in the use of his arms and in the management of his horse, so long will he remain under instruction in the riding-school.

As soon as a class is pronounced perfect by the riding-master, notification of the fact is sent to the commanding officer, and the latter will fix a day on which to come and inspect the "ride." He will order the men to be put through any series of exercises he may think fit, and should he consider the work satisfactorily done the class will be dismissed and the men in future take their places in the mounted ranks.

The whole course of riding-drill occupies on an average six or seven months, though the period may be shortened in the case of an exceptionally good rider, or lengthened in the case of a bad one.

While in the higher classes the recruit rides after breakfast from 8.30 A.M. to between 10.30 and 11 A.M., from which latter time until dinner he is occupied in the stables.

Concurrently with riding the recruit has to undergo a course of instruction in foot-drill, commencing with the ordinary extension motions, and proceeding by degrees to the more complicated movements and instruction in the use of carbine, sword, and lance. In all this, however, the aim is to teach the recruit to act as if he were mounted, and nothing is taught him on foot which could not be done with equal facility when on horseback.

Instruction in foot-drill occupies somewhat less time than that in riding.

After being dismissed these two courses of instruction a recruit has yet to undergo four others, namely, in musketry, fencing, gymnastics, and single-sticks. Of these musketry will occupy about a fortnight; as to the three others, a series of from thirty to forty lessons in each is given.

Having dismissed our recruit, we will now give some idea of the general run of the work which he has to perform as a fully-developed trooper.

Let us suppose that a field-day is going to take place. The

time at which the men turn out varies of course at different stations, but, except at Aldershot, it is generally in the early forenoon, about half-past eight.

Immediately after the roll-call at morning stables, the men proceed to clean out the stables, separating the cleaner portion of the straw bedding from the soiled ; then water and groom their horses. This will occupy the time until approaching seven o'clock, when



each horse is fed with a measure of corn, and saddled, the girths however being left loose.

At seven o'clock dismiss from morning stables is sounded. The men have then to proceed to the forage barn and draw the fodder and bedding for the horses for the day ; on this being done the new bedding is apportioned out among the stables and well mixed with the cleaner part of that of the previous day, the whole

being spread out in the sun, or, should the weather be wet, under sheds.

After drawing forage, one man from each different mess (that is to say, the messmen for the day) has to parade at the ration store and draw the day's rations for his mess. This same man has to fetch the meals also from the cook-house at the proper hours.

The other men are all perfectly free up to breakfast time to do anything they may like; the time generally being employed in putting the finishing touches to any accoutrements that will be required during the day.

Breakfast is promptly despatched, as but little time is left after it for dressing and bridling up the horses ready to turn out.

At an ordinary regimental field-day the troops generally return to barracks about eleven o'clock, or half-past, but should it be a general's parade or a garrison field-day the return is often much later, in fact 1 or 2 o'clock, or even later, is not unusual. In the former case, midday stables will sound a quarter of an hour after the return of the troops, and dismiss from stables will take place at the usual hour, as that will give sufficient time to groom the horses and clean the saddlery; in the latter case, the horses are watered, unsaddled, and fed at once, and the men then go to their own dinners. The stable-work has to be done after dinner, the men being allowed to go away as soon as the officers are satisfied that everything is properly clean. When the return is late, the horses are bedded down when the men leave stables instead of at the evening stable hour, the latter being shortened accordingly.

Tea is always brought up immediately after evening stables, which finish the regimental work of the day.

Should there be no mounted parade of any kind to take place during the day, the horses are ridden to exercise from half-past eight to half-past ten, or during the summer months from six to a quarter-past seven.

When exercise takes place before breakfast, the early morning grooming of the horses is dispensed with; they are merely wiped down with a rubber and immediately saddled. It is on such days as these that an opportunity occurs to thoroughly overhaul the saddlery, and give it an extra amount of attention, as the whole of the morning from breakfast until dinner is available for the purpose.

From the dinner hour until evening stables the men, with the exception of those who are on guard or fatigue, can occupy their time as they wish; some clean and prepare their accoutrements

convey any bad meaning; and the writer has heard much more immorality spoken in the "commercial-room" of a country hotel than in any barrack-room, and this by men who consider themselves gentlemen. "Thomas Atkins," taken all round, is a thoroughly good-hearted, generous fellow, sharing his good things with his comrades, and seeing them safe through many a scrape at the risk of bringing severe displeasure upon himself.

After eight, and up to ten o'clock, the barrack-rooms are generally emptied of most of the men. Such as are in pocket seek what entertainment the town may afford, or proceed with a few chosen comrades to the canteen, where over their pot of beer they will fight old battles over again, and listen to the strains of the piano and the song of such men who, by virtue of a good voice or execution, can claim the sufferance of the company.

Many of the men, especially during the summer months, contrive to get what is called throughout the army a "square girl," or more commonly still, a "square moll." This young person is generally a domestic servant, though in many cases she is employed behind the counter of some tradesman, or is, perhaps, the daughter of some middle-class people. The men will escort their own particular damsel to any suburban walk or mild place of amusement, and see them safe home at dusk, often receiving, in return, an invitation to tea or supper, which, it must be admitted, is very frequently the aim of the amorous Thomas. These meetings are, however, rather to be encouraged than otherwise, as they have the effect of keeping many a man from the public-houses and the many lowest of evils which a large town always affords.

For those who are fond of reading there is a library and reading-room, supplied with books of every kind and with the principal daily and weekly papers. Chess, draughts, bagatelle, and cards (and in one or two stations, but this is very rare, a billiard-table) also afford amusement to many.

Amongst the most important duties of a soldier are to be reckoned guards and picquets; of the former there are two kinds, the barrack guard and the stable night guard.

The barrack guard is, as its name implies, a guard over the barracks. It is more commonly called the "day guard," in contradistinction to the stable night guard, which mounts at night only. The day guard parades daily at half-past two, the men composing it being in full dress, and carrying carbines. After being inspected by the orderly officer of the day, it is marched to the guard-room, and relieves the guard which mounted on the

previous day. Each guard lasts twenty-four hours, and during the whole of that period the men must remain fully dressed, and ready to turn out at a moment's notice. The number of men on guard is fixed at the rate of three to every post on which a sentry has to be placed, so that every man has to do two hours on sentry-go and four hours off.

A sentry on the front gate of a barracks in a town where soldiers are much liked (such as Manchester, for instance) has often a very profitable time; as in the town in question, I have known men come off their two hours' sentry-go with the wrists of



The Guard Room.

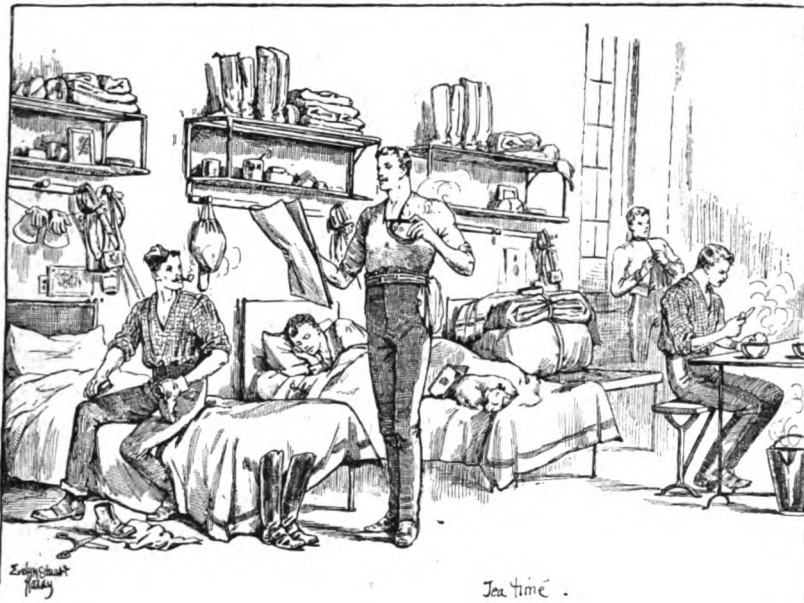
their gauntlets half full of silver, slipped in there by people coming in to look at the barracks. On one particular occasion I can recall, a whole rain of pieces of money fell from the gauntlet of a sentry while in the act of presenting arms to a field-officer who was entering, to the utter amazement of the officer and confusion of the man.

The stable night guard is posted for the purpose of watching over the stables and seeing that no harm comes to the horses or saddlery.

This guard mounts daily at seven o'clock, and comes off duty at

reveillé the following morning. As it in no wise interferes with any of the duties or drills of the day-time, the greater number of the men composing it are the recruits. The remainder is made up of batmen, and such men as are going through some course of instruction which requires their daily presence, and thus prevents their doing day guards or picquets.

Picquets are employed as mounted messengers to the different Government offices, and it is therefore only in a very few garrisons that there is any need of them. Each picquet, as a rule, consists of three men and a non-commissioned officer in charge. Like the guards, each picquet is on duty for twenty-four hours, but as they



are only in very exceptional cases required during the night, the men may consider themselves sure of their night's rest.

As regards pay, a soldier, taking all in all, is not so very badly off. Taking the lowest rate—that of a private—a man may be sure of receiving weekly a sum of 5s., after paying his messing expenses and any little extras, such as damages to the barracks, crockery, &c., as may arise during the month. Five shillings a week does not seem very much, and, set on paper, appears still smaller; but how many clerks can say that after paying for food, clothes, and lodgings, they can afford to spend 5s. weekly on their

own personal desires; and this same 5s., be it remembered, is the lowest rate of pay. There is always the prospect of advancement, which, once the first step is received, is very quick in a cavalry regiment in the case of an educated man.

Besides the ordinary promotions to non-commissioned rank, there are many snug berths, such as clerkships or instructorships, in every regiment, which carry with them extra duty pay of from 8d. to 1s. a day, with immunity from parades and regimental duties.

As soon as a man arrives at the rank of sergeant he is allowed a batman—that is, a soldier servant who looks after his horse, and acts as a body servant also.

The kit with which every man is supplied on enlisting consists of underclothing, brushes, and some few articles which are indispensable to a soldier. It is always advisable to procure some additional articles of underclothing, as the amount allowed by Government is only such as is absolutely necessary. As to clothing, every man receives on joining three pairs of boots (viz. ankle, knee, and Wellington), a jacket and a pair of overalls, which, with the Wellington boots and a cap, and pair of gloves, constitutes what is called the “clean stable dress,” and is the ordinary walking suit of the cavalryman; a pair of pants, a tunic, and a suit of blue serge clothes, complete the outfit; the serges being the working costume and the pants and tunic being worn when in full dress. In addition to these, an active service frock is also going to be issued in future by the authorities. Of this clothing the frock and pants are renewed annually, the remainder every two years; ankle boots have, after the first issue, to be kept up by the soldier himself.

In the barrack-rooms themselves, both large and small, the same arrangements are in vogue. Down the centre runs a long table flanked by forms. The bedsteads are arranged round the rooms, and, being made to fold up into a space of about 36 inches by 30 inches, constitute seats during the daytime, the backs being formed by the bedding, which is rolled up and fastened with a leather strap. Shelves run all round the room at a height of about seven feet from the floor, and under these is a row of pegs. Each man's kit is placed on that portion of the shelf immediately above his bed, and his belts and arms are hung on the pegs below it, the carbine, however, being placed in a rack behind the bed.

Some idea may be gathered from this paper of what cavalry life really is. In spite of many seeming restraints and drawbacks it whole a free and pleasant life, affording many chances

of observation of people and of places which rarely falls to the lot of the civilian; giving assured pay, food, and clothing with but little responsibility.

The writer had himself many misgivings on the subject before enlisting; but after several years' experience has come to the conclusion that, although not entirely a bed of roses, a soldier's lot is one well worthy of a trial, and he strongly recommends the many who are dragging out an existence in the over-crowded professions of the country to throw prejudice to the winds, and don the uniform of their Queen.



Induced Draught v. Forced Draught in Boilers.

BY HARRY WILLIAMS, CHIEF INSPECTOR OF MACHINERY, R.N.



IN an article on the use of forced draught in boilers, which appeared in the July issue of this Magazine, I endeavoured to show what "forced draught" is; how it is obtained; what effect it has on the boilers; why its use above a certain limit causes leakage, and renders the boilers temporarily unserviceable, with a possibility that more or less permanent injury might be done by excessive straining due to using too high an air pressure. Also that the failure of the boilers made necessary a more or less expensive repair, which, while in hand, involved the loss of the ship to the public service.

I also suggested a safe forced draught limit, up to and within which forced draught might be used beneficially, because it would always ensure a very free supply of air necessary for the rapid and perfect combustion of the coal.

But the principal point insisted on was that it was imperative that our ships of war should be capable of being steamed at full power under conditions which would make it absolutely certain, not only that the boilers should not break down under the strain, but that there should be a considerable difference between this highest actual working strain and the breaking down strain. And the limited forced draught suggested, viz. the half-inch air pressure, would provide this difference between the strains, and ensure the continuous safety and efficiency of the boilers.

There is another kind of draught now being experimented on, called "induced draught," and it is claimed for this, that by its use all the advantages gained by forced draught can be obtained

without having to pay the penalty of the breakdown of the boilers under the strain. If this can be done, there is no doubt it will be of great advantage to the navy, and it will, therefore, be well to inquire as to how this induced draught resembles and differs from forced draught, and whether it is probable that the one will succeed where the other fails.

It is understood that the induced draught is obtained by placing at the bottom of the funnels a fan, by the working of which the air is partially exhausted from the uptakes and lower parts of the funnels. This exhaustion of the air causes the air in the boiler-room to be drawn in through the ashpits, furnaces, combustion chambers, tubes, and smoke-boxes, into the uptakes, and so up through the funnel. The exhaustion of the air from the uptakes causes a fall in the pressure of the air at this point, and the denser air in the boiler-rooms rushes through the fires, &c., to fill the void, and thus establish equilibrium. But in consequence of the air exhausting process being continuous, the in-draught of air from the boiler-room is also continuous. Thus there is a continuous current of air passing through, and stimulating and forcing the fires, causing intense heat, and generation of steam more or less rapid in proportion to the velocity of the air currents passing through the boilers. This velocity depends on the difference of the air pressure in the boiler-room, viz. the atmospheric pressure, and the air pressure at the bottom of the funnel, whence the air is exhausted. As the difference of the air pressures at these points increases, the velocity of the air currents through the fires increases, the heat generated in the furnaces is more intense, the evaporation of the water more rapid, and the generation of steam quicker. But in what does this differ from forced draught? It is forced draught called by another name. In both cases air fans are used; in forced draught at the stokehold end of the boilers, in this induced draught at the funnel end of the boilers. In both cases the object aimed at is exactly the same, viz. to cause so much difference in the air pressures in the stokeholds and funnels as to make the air rush through the line of fire in the boilers, through the funnels. In both cases, the velocity of the air currents through the fires would cause the "blow-pipe" action on the heating surfaces to be set up. This results in great quantities of steam being given off, which passes through the water, and lifts it away from the plates and tubes, causing over-heating and undue expansion, the contact of the water and the plates not being perfect enough to keep them at a safe temperature.

It may be mentioned here that, before the introduction of forced draught in the navy, there was always in our ships an induced draught fitting called the steam blast. This was a steam pipe with a regulating valve attached, jointed on to the top of the boilers at one end and to the lower part of the funnel at the other. This steam pipe was carried for three or four feet inside the funnel, and was made to point upward through the centre of the funnel. When the induced draught was required, the blast valve was opened, and a jet of steam was blown with great velocity up the funnel. This caused the exhaustion of the air at the bottom of the funnels and the in-draught of the air from the stokeholds through the fires, causing them to be "forced" to a degree proportional to the velocity of the air currents going through the fires. The breakdown of boilers in those days were much fewer than in these, but of those that did occur quite 70 per cent. were caused by the use of this steam-blast-induced draught. But as the breakdowns were fewer, it may be asked whether this does not prove that the steam-blast induced draught is better than the forced draught, in the sense of doing less injury to the boilers. The answer is, No; for the reason the boilers did not break down with the use of the steam-blast induced draught so often as at present with the forced draught, is that the draught with the former was never as great as with the latter. In other words, when working at the highest power, in both cases the fires could not be *forced* by the steam blast to the same extent as with forced draught; it is the undue forcing of the fires by the use of an excessive draught which causes injury to the boilers. When the use of the steam blast caused leakage, it was nearly always found that a scale had formed on the heating surfaces inside the boilers, so that the heat could not be readily transmitted through this scale to the water, and that in consequence the plates and tubes could not be kept at a safe temperature. With boilers in this condition, the full steam-blast induced draught was excessive, for with the use of a moderate blast, or a purely natural draught, no injury was done. With new and clean boilers the use of the steam blast very seldom caused leakage.

From the above description it will be seen that there is no novelty in the idea of an induced draught by the exhaustion of the air from the lower part of the funnels. In the case now being considered, the novelty is the fitting a fan at the bottom of the funnels for the purpose of exhausting the air at that point, and it would appear that exactly the same thing was done by the steam

blast, the excessive use of which was found, as has been mentioned, to have an injurious effect on the boilers.

By the foregoing it would appear that, theoretically, there is no difference in principle between the two cases of induced draught and forced draught. The object aimed at is the rapid generation of steam, by the forcing of the fires, which is done in all these cases in exactly the same way, viz. by driving air with more or less velocity through the fires, causing the generation of intense heat over the whole of the heating surface. This heat depends on the velocity of the air currents driven through the fires. Lastly, but most important of all points in the consideration of this subject, in all these cases of either induced or forced draughts the velocity of the air currents through the fires is governed by one and the same thing, viz. *the difference of the air pressures at the points of ingress and egress*; ingress at the furnace and egress at the funnel end of the boilers.

This being so, and similar causes producing similar effects, the question arises: Why should forced draught and the steam-blast induced draught act injuriously on marine boilers, and the induced draught caused by the fan at the bottom of the funnel not do so? For, apparently, the action on the boilers is the same.

No doubt the induced draught now being considered deserves a fair trial. Any invention that, when tried, will stand the test of experiment, and do what it is intended to do, may be regarded as successful. On the contrary, any invention that will not stand the experimental test is not only useless, but misleading and dangerous. An illustration of this has occurred in one or two ships in which, when on trial under forced draught, the boilers have given out so suddenly and completely as to cause the death of some and serious injury to others by burning or scalding, these breakdowns occurring when there was no apparent shortness of water in the boilers. This is an element in the case which should not be lost sight of, viz. the possibility of danger to life or limb by the use of an excessive draught, whether forced or induced.

Before the superiority of this induced draught to forced draught can be proved, it would be necessary to give it a trial under the same circumstances and conditions as the forced draught, and if possible in the same ship, and with the same boilers; the trial should be continued not only up to the point where the forced draught broke the boilers down, but till the full specified contract indicated horse-power be obtained; this would prove that the in-

duced draught could do what up to the present the forced draught has failed to do, as, *e.g.* in the *Barham* and *Seagull* classes of ships. The trials should be of sufficient length to determine whether the boilers would remain continually efficient under the test, and be witnessed by impartial officials, who would not be influenced by the natural optimism of the inventor. These precautions are necessary, and will prevent a too hasty adoption of an invention which has not been sufficiently tried. It must be remembered that inventors' and contractors' trials are not final trials of the machinery of Her Majesty's ships. The final trials will be the full-power runs, periodically made during the future life of the ships, which will inevitably show any failure to come up to the requirements. There have been several cases, for instance, of new ships having gone through the four hours' forced-draught contractors' trial satisfactorily, yet very early after commissioning the boilers have broken down badly. The fact is, that it is only while the boilers are quite clean—as in the case of new boilers—that forced-draught trials can be made with satisfactory results, and not always then; and it is equally true that the longer boilers are in use, the less clean they are, and the less fit to be worked under forced draught.

There is little doubt that both forced and induced draught might with safety be used to a much greater extent than can be done at present, if certain things could be done, as, for example:—

1. If the formation of incrustation and scale on the water side of the plates and tubes constituting the heating surface of the boilers could be prevented, so that there might be perfect conduction of heat through the clean plates.

2. If boilers were designed to ensure a good circulation of the water in them, over, around, and about all parts of the heating surface, and to maintain perfect contact between the water and plates at the time the generation of steam is most rapid.

Engineers appear to have brought all their skill to bear on the perfecting the arrangements and fittings of the outside, or what might be called the fire side of the boilers, whereas it is evident, if the assumptions in 1 and 2 be correct, that the arrangements, &c., of the inside, or water side of the boilers, require much improvement; and it would be well to note this, for it is in this direction that the remedies for existing evils in the safe development of boiler power will probably be found.



Packs, Past and Present.

By R. SIMKIN.



THE recent Government grant for completing the equipment of the Volunteer forces, and the issue of the new Slade-Wallace equipment to the regulars, have brought the subject of packs into prominence, and it may interest some of our readers to take a glance backward at the various modes in which, at various periods, the British infantry soldier has borne his burden.

The earliest reliable information of the marching equipment of the soldier is of the period of George II. The first of our illustrations shows two grenadiers of 1751 in marching order. They wore broad buff shoulder-belts with large, heavy pouches. On the former were brass cases to hold the matches used for igniting their hand-grenades (these were retained as a badge by grenadiers long after the abolition of the grenades). The broad waist-belt, also of buff leather, and worn *under* the coat, sustained, from a double frog, a short basket-hilted sword, called a "hanger," and a bayonet; over this a small pouch was strapped. The cow or goat skin sack, with the hair left on, contained the soldier's necessaries, and was slung by a strap over the right shoulder, hanging across the left shoulder-blade; it was counterbalanced by the "haversack" of slate-coloured canvas, to hold provisions, &c., which was slung by a buff strap over the left shoulder. The Russian infantry at the present day have adopted this somewhat primitive method of carrying their kit. A tin water-bottle hung from a cord passing over the right shoulder.

In addition to these articles the soldier of those days had when on service to carry a camp-kettle, his portion of a tent, and a tent-pole. There is no information as to how these latter were

carried, but in *Brand's Military Discipline*, which may be regarded as the Red-Book of that time, soldiers were specially cautioned not to fasten them to their fire-locks when on the march. As the poles were eight feet in height, they must have been a considerable addition to the soldier's burden.

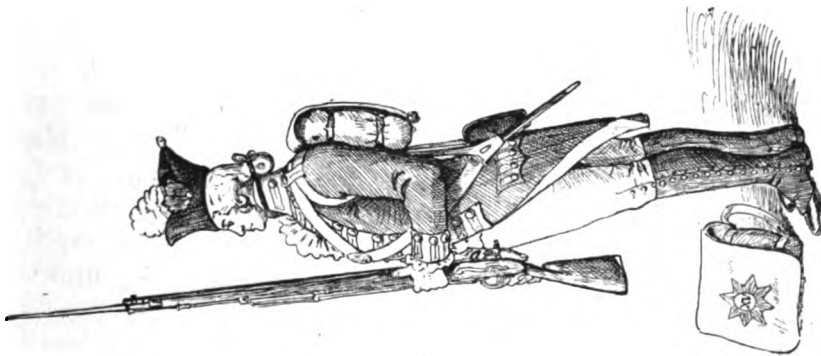
About the period of the American War of Independence, the waist-belt was abolished and cross-belts came into use. The subsequent cut shows the infantry equipment in 1792, and for a con-



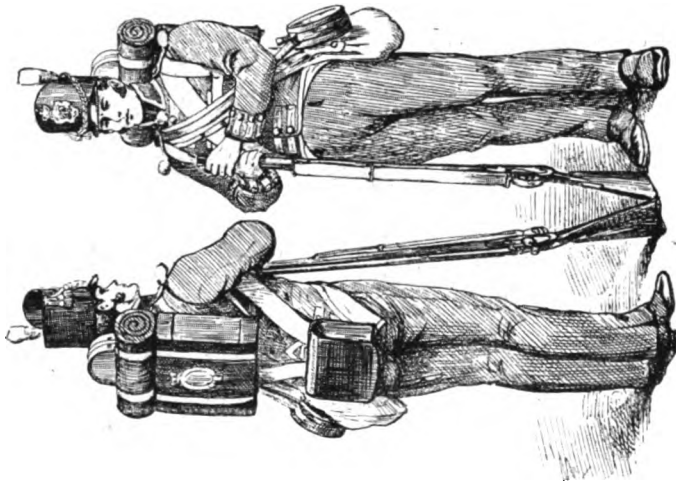
GRENADIERS, 1751.

siderable period previous to that date. The coat was not buttoned up, and sat easily and gracefully on the soldier. The knapsack was of oilskin, usually painted buff or pale grey, with the regimental number or device on the flap. It was suspended by a sling on each shoulder. A well-starched shirt-frill was *de rigueur* at that time. The white waistcoat was sleeved, and, without the coat, formed the undress as worn at the present day by the foot guards and highlanders.

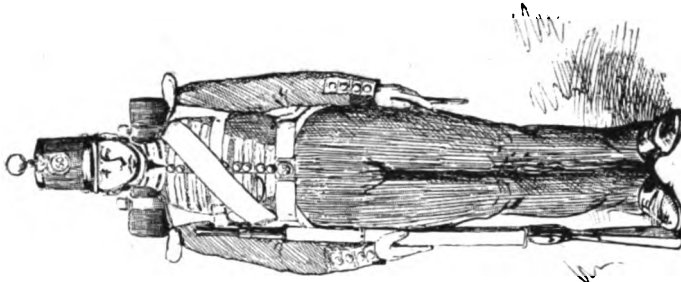
Although the cavalry troopers were provided with cloaks, it will



PRIVATE, 15TH FOOT, 1792.



LINESMEN, 1812-15.



LINESMAN, 1833.

be observed that the poor infantry soldier had to brave all weathers in his uniform coat, as no greatcoat was issued to him. "Watch cloaks" were provided for men on sentry, and handed over from guard to guard like the sentry-boxes. Early in the present century, however, these necessary articles were added to the soldier's equipment.

The next sketch shows the equipment of the Peninsular epoch.



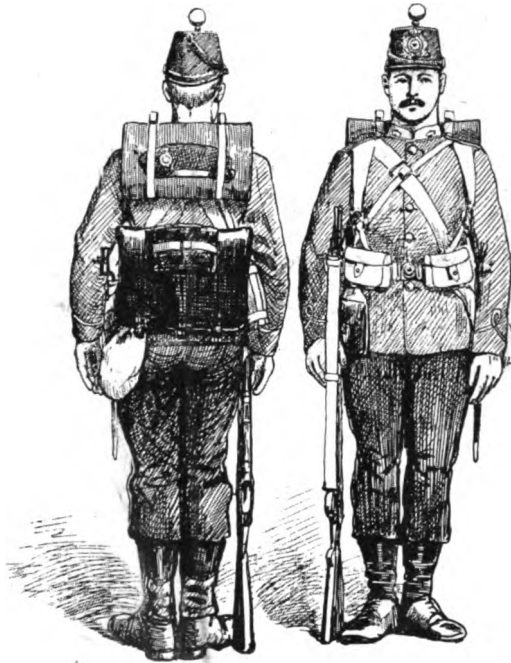
INFANTRY KIT, 1860.

The cross-belts were considerably increased in width, and a breast strap connected the slings of the knapsack. The greatcoat was rolled and strapped on the top of it, and the mess-tin above that. A canvas haversack, and a heavy wooden, cask-like water-bottle were slung over the right shoulder. Grey cloth overalls, and short gaiters superseded the white breeches and long

gaiters, and the remarkably ugly shako was a copy of that worn by the Austrians at that period.

This cross-belt equipment was a long time in use in the British service, and survived many changes of uniform. On the introduction of the percussion musket a cap-pouch was introduced, just above the waist, on the right side of the uniform coatee.

About 1852 a waist-belt, with a frog for the bayonet, was issued to supersede the bayonet shoulder-belt, and the large square pouch was replaced by a longer and narrower one, known as the "candle-



THE VALISE EQUIPMENT, 1873.

box" pattern. The change however was very gradual; many of the regiments taking part in the Crimean campaign of 1854 were still equipped with the old cross-belts.

In 1856-57 a complete revolution took place in the dress and equipment of the army. The tunic superseded the coatee, a buff ball-pouch was worn on the right front of the waist-belt, and a small cap-pouch on the centre of the shoulder-belt. The great-coat was folded flat and strapped to the back of the knapsack, the mess-tin being carried on the top, enclosed in an oilskin cover.

The haversack was worn at the left side, the heavy wooden water-bottle at the right, and short leggings of black leather were issued to the troops.

About 1868 the attention of the public was called to the celebrated "soldiers' spot," an affection of the heart said to be engendered by the strain on the chest and pectoral muscles caused by the slings of the knapsack; a new knapsack, called the "Carter" knapsack, was issued experimentally to the 92nd Gordon Highlanders, but not adopted in the service generally.

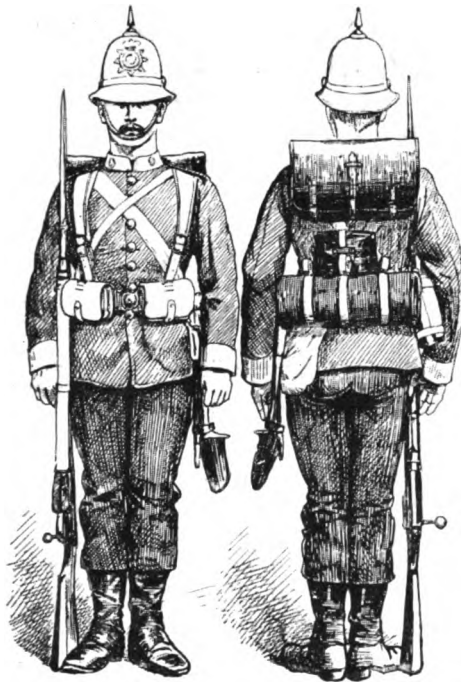


THE VALISE EQUIPMENT, 1882.

In 1870, however, a "valise equipment" was decided upon as the regulation kit for the army, and gradually displaced the old knapsack. The valise containing the soldier's kit and necessities was suspended at the small of the back by yokes, passing over the shoulders, and fastening to metal D's on the front of the waist-belt. The greatcoat was folded with mathematical accuracy and attached by coat-straps to the yokes, so as to sit behind the shoulder-blades. The shoulder-belt was abolished; two pouches being carried in front of the waist-belt, and a third, the "expense-

pouch," suspended from the yoke at the right side. For some years glass soda-water bottles or hock-flasks, covered with leather, were carried in lieu of the old wooden canteens, and in '73 these were superseded by the neat "Italian" wooden water-bottle with a buff strap, as at present in use.

Military inventors were busily at work suggesting improvements on this kit, and, among others, the "Oliver" equipment, with brown leather belts and tanned canvas valise, was issued on trial to the 52nd Light Infantry. Later on the "Blakeney Pad Equip-



THE SLADE-WALLACE EQUIPMENT, 1888.

ment" (of which a notice appeared in these columns) was also on trial by the troops.

In 1882 an improved valise equipment was definitely adopted, and rapidly issued throughout the service. The valise was increased in size, the greatcoat being carried under the flap and the mess-tin on the top. The braces fastened to D's on two large, flat, collapsible pouches, carried on the waist-belt. The strap of the water-bottle was abolished, and it was attached by a metal clip to the waist-belt.

In 1888 the "Slade-Wallace" equipment was decided upon as the regulation kit, and it is now in course of issue. A leading feature is the arrangement by which the valise can be detached without disturbing the remainder of the equipment. It sits behind the shoulder-blades, and the greatcoat is rolled and attached to the waist-belt. The water-bottle is again suspended by a strap, and the "Wallace" entrenching spade hangs with the bayonet at the left hip. The sketch shows the latest equipment of the British infantry soldier. His uniform, destitute of any vestige of ornament save the buttons and collar badges, is surmounted by a new pattern white helmet, which, whatever may be its merits from a sanitary point of view, must be regarded as surpassing in ugliness any head-dress hitherto worn in the service. Thus clothed, poor Tommy Atkins of the line must be exonerated from the implication, suggested by a high military authority in a recent magazine article, of being tempted to enlist by a love of "tawdry finery."



Jellalabad.

REMARKS ON LIEUT.-GENERAL SALE-HILL'S ARTICLE* ON ITS DEFENCE.

By MAJOR W. BROADFOOT, R.E.



LAST June General Sale-Hill wrote to the *Times* complaining of an assertion made by Mr. Archibald Forbes in his *Havelock*, and stated that documents which had recently come into his possession would enable him to publish a true story of the defence of Jellalabad, and show how far the unimpeachable veracity of Havelock and Broadfoot's recollections might be depended upon.

On seeing this I wrote to the editor to say that so far from wishing to unduly disparage Sir R. Sale, or unnecessarily give pain to his descendants, my endeavour has been to avoid such offence; that the publication of the documents would be awaited, and if the existence of errors in "The Career of Major George Broadfoot, C.B.,"† were proved, they would as far as possible be corrected.

General Sale-Hill's article has since appeared.‡ In it the *Athenæum* is attacked for defining the portion of history which requires to be re-written, and for remarks on the councils of war, made in a review; and the book itself for conveying a wrong impression of Sale's character, and of the value of his services. To support his estimate of Sale, the writer has criticized Broadfoot's conduct; to disprove the evidence in the "Career," he has relied on documents recently obtained. From these, in some instances, quotations are made, in others the substance only is given; it being by no means clear which are quotations and which are condensed versions of such part of the documents as he thought desirable to cite. Having noticed this, and being willing to re-examine the case with the benefit of such additional light as these papers may throw on it, application for permission to study them was made.

* Referred to hereafter, for brevity, as "Article."

† Referred to hereafter, for brevity, as "Career."

‡ *Illustrated Naval and Military Magazine*, July 1890.

Further, it was asked that the custody of the documents which constitute the original official record of the proceedings of the councils of war might be traced, and whether they had been forwarded to Government in the usual way.

General Sale-Hill is kindly prepared to supply copies of the principal documents, but on condition that extracts are not published without his consent. Not being at present prepared to agree to this proviso, and being now in a remote part of the country, it does not seem desirable to have the papers sent, and therefore examination of them must be deferred. But this need not delay consideration of the "article" and a general examination of deductions made from the evidence quoted.

It is unnecessary here to notice the complaints against Mr. Forbes and the *Athenæum*; if thought of sufficient importance, they will be answered by those concerned. But as endeavour is made—with perfect honesty doubtless—to contest the accuracy of the description of Sale, and the value of the evidence on which it is founded, it would be discourteous to permit the article to pass away unnoticed.

Sale's character and qualifications are thus stated when his death at Mudki is recorded.

... The former (Sale) had especially a deserved reputation for great personal gallantry. In a previous part of this work the facts related tend to show that Sale, though personally most brave, was, like many other good men, unduly fearful of responsibility, and therefore, scarcely equal to the position in which he was placed during the critical period of the siege of Jalalabad. It is therefore a duty as well as a pleasure to record, as fully as space will permit, the leading events of his distinguished career.*

This estimate is challenged, for two main reasons:—

1. Because General Sale-Hill thinks that the official record of the proceedings of the council of war "distinctly prove that the reminiscences of Broadfoot-Havelock are incorrect and untrustworthy on the most material points," and that Sale "never contemplated the surrender of Jellalabad to the enemy, but was willing to make a treaty to retire from the country under stipulations, &c."†

2. Because, in general, scarcity of ammunition and his belief that a waiting game was the best, excused Sale from conducting the defence with greater vigour; and, in particular, "the accusation, page 91, that Sale objected to, and had to be persuaded to, undertake the action of 7th April 1842 is distinctly contradicted by his

* "Career," p. 386.

† "Article," pp. 371-372.

letters, public and private.”* A letter to Captain Brind, R.A., is quoted in support.

Of less importance are the statements made in order to depreciate Broadfoot's services; but as several are inaccurate, argument based on them cannot command respect. The following errors are cited. “All accepted history and record up to date of the appearance of the book had credited Sale as the hero of Jellalabad.”† And, somewhat quaintly, the writer proceeds to substantiate this statement by reference to another article from his own pen.‡ He is, however, in error—see Durand's *First Afghan War*, a book written by a very able man, who had more than ordinary facilities for acquiring information on the subject. Writing of Nott at Kandahar, he remarked :

The greater the gloom with which the Kabul disasters might envelope Afghanistan, the brighter the lustre of the sword which should dispel it; and the old soldier's heart, instead of quailing before the storm which others had raised, kindled like Broadfoot's at the prospect of the hour of trial, of victory, and of fame.

It was fortunate that Jellalabad and Candahar had two such congenial spirits to influence and guide the course of events.§

His remarks on Jellalabad affairs show a correct appreciation of the part played by Broadfoot.

In the next place, use is made of Broadfoot's opinion, written three days after the occupation, that the brigade should retreat to Peshawar and then return, having refitted and having been reinforced, to show that his was not the leading spirit during the defence.|| The argument is remarkable. We are invited to judge Broadfoot's conduct during the siege by an opinion expressed before the defence had been undertaken! His advice was nearly always in favour of bold and active measures. In this instance, to remain outside the walls, then useless as a defence, and fight the enemy, or even to fight their way to Peshawar and back again, was a bolder, possibly a wiser, course than to enter Jellalabad in haste and there await relief from India. At any rate, the matter is irrelevant as regards the subsequent conduct of the defence.

Lastly, certain pages of the “Career” are indicated, in which General Sale-Hill believes matter is found to support his depreciation of Broadfoot's character. If it be so, it is testimony to the impartiality of the work. But occasionally there is in-

* “Article,” p. 374.

‡ “Article,” p. 366, footnote.

† *Ibid.*, p. 366.

§ Durand's *First Afghan War*, p. 410.

|| “Article,” p. 368.

accuracy in his references, and consequent misrepresentation ;* these, with the other mistakes noted, however unintentional, are damaging in no small degree to an article which claims to tell the *true* story of the defence.

So much for the minor points : the main issues must now be considered. And with reference to them it must be distinctly pointed out that the bulk of the "Career" consists mainly of evidence the sources of which are, it is believed, fully indicated. This evidence is taken directly from the papers and journals of various persons, and it has been carefully examined. But General Sale-Hill having recently acquired documents, some official, others private—both, as far as is disclosed by the "Article," emanating from Sir R. Sale—seems to take for granted that where these differ from the independent testimony of several officers, the evidence of the former is to be accepted and that of the latter rejected. To this view I respectfully but decidedly demur. There is much simplicity in the belief that because an account is official it must therefore be true ; and as to the evidence in Sale's private letters, it must be submitted to the same tests, and requires the same corroboration as that of the other officers. Further, as the witnesses are human, the person in search of historical truth must consider the credibility of the respective evidence ; must examine whether either party is interested in concealing facts, and decide whether the united testimony of several independent witnesses may not outweigh the unsupported evidence of one, though that one may be the commanding officer.

Regarding issue (1). Careful comparison of the account in the "Article" of the council of war with Broadfoot's memorandum, pronounced by Havelock to be faithful, having been made, little material difference has been found. Naturally, there is much in the latter paper not to be found in the official despatch ; but it contains the chief points detailed in the "Article," and this is further testimony to its accuracy. It is therefore difficult to discover by what process of reasoning General Sale-Hill has arrived at the conclusion that his quotations "prove that the reminiscences of Broadfoot-Havelock are incorrect," &c. On the contrary, it appears from the quotations alone, that at the council

* For example, there is nothing in pp. 45, 46, about complimentary orders. P. 97: there is not one word of comparison between the sally of March 24 and the action of April 7 in this page. Regarding the other pages quoted, I desire nothing more in the interest of Broadfoot's character than that they should be carefully read and considered.

of war the majority agreed to send a letter to Shah Shuja, treating for an evacuation of Jellalabad, and that the minority, Broadfoot and Oldfield, objected to evacuate under treaty. That certain officers recorded the reasons for their votes. That on February 12th, 1842, Sale laid the Shah's reply before the council, in order that members might affix their seals to the letter already sent, and that he still proposed to treat with the Afghans; but that the majority declined to do so, and a letter was forwarded which, "though not very clear, was *not* a continuation of the negotiation."* To continue the negotiation, all that the officers had to do was to adopt Sale's views and seal the letter. But the majority, gained over to Broadfoot's opinion, declined; "and most fortunately so for the military reputation of the council."† The reply sent may have been a conclusion of the negotiation, but with every deference to General Sale-Hill's opposite opinion, cannot, it is submitted, be with any accuracy described as a continuation.

Again, regarding this reply, attempt is made to show error in Broadfoot's account, because the letter is said to have been prepared by Colonels Dennie and Monteath, whereas it was sent by Macgregor. Is General Sale-Hill so ignorant of official procedure as not to know that, no matter who drafted the letter, it would be sent through the proper channel, signed by Macgregor as political officer?

Next, we are seriously told that Sale "never contemplated the the surrender of Jellalabad to the enemy, but was willing to make a treaty to retire from the country," &c.‡ This is a strange matter, difficult of comprehension. How could he retire from the country without abandoning Jellalabad to the enemy? Who, or what, was to prevent the Afghans from occupying the place after Sale's "honourable evacuation"?

The second main issue must now be considered. In the "Career," evidence is given of Sale's want of vigour in the defence, and of the difficulty with which he was persuaded to sally forth and obtain supplies or punish the enemy. In excuse, it is stated§ that he refused to make sorties from want of ammunition, or till reinforced, or till he could strike a decisive blow. As to the ammunition, an extract from Abbott's diary, March 1 and 2, 1842, is quoted:—

Much ammunition wasted on both sides, General Sale setting the worst example by himself taking muskets to fire at men running from 400 to 600 yards off.

* "Career," pp. 76–77.

† "Article," pp. 371–372.

‡ Durand's *First Afghan War*, p. 401.

§ "Article," Footnote, p. 374.

Backhouse, also, on several occasions complained of this waste ; and regarding Sale's preference for waiting for reinforcements, he used plain terms.

To support the contradiction of the statement in the "Career" that "Sale objected to and had to be persuaded to undertake the action of 7th April 1842,"* a private letter to Captain Brind is adduced. This letter, as well as his official despatch, induce the belief that Sale required no pressure from his officers to persuade him to fight. But there is another side to the question. Attention is invited to the following extracts. In Abbott's diary, April 5 and 6, 1842, it is recorded that spies reported Pollock repulsed at Ali Masjid, and that the heads of three officers had been sent in to Akbar.

All the commanding officers waited on the General, beseeching him to attack Akbar instantly. The 13th and the battery got all ready for work, but the old General was obstinate, and refused to act.

After further comment, he mentioned on April 7 that the redoubt was attacked by Sale, which should not have been done. Backhouse has corroborated this, and those two officers were employed by Sale to batter the fort.

In Backhouse's diary, April 6, it is mentioned that a spy having reported Pollock repulsed, and Akbar having fired a salute, the officers commanding corps and detachments "went in a body and proposed to the general to attack Akbar immediately, but without the hoped-for success." After the action, he wrote as follows :—

Mayne and myself first agreed upon the attack on Akbar's camp while he was firing his salute, and we then went and proposed it to Abbott and Oldfield.

This was on the morning of the 6th instant.

We agreed to call upon Colonels Monteath and Dennie, and go in a body to General Sale, and insist upon his attacking, or allowing somebody else to attack Akbar's camp immediately.

Broadfoot, who was lying severely wounded, gave his vote for the attack, and with Lieut. Orr, acting garrison engineer, the officers waited on General Sale.

Immediately the matter was broached, the General set his face against anything of the kind, and disagreed about every point—insisted that the enemy had 5,000 or 6,000 men in camp, and were too strong for us, and then, the next minute, that it was no use going out, as we couldn't punish them, *as they wouldn't stand*, and concluding with the usual excuse for inactivity—"It isn't our game!" . . . Words ran precious high. . . . Captain Abbott retired to a distance in great disgust, swearing that at all events his battery should go out against Akbar to-morrow morning, and he would then call for volunteers to support the guns!

* "Article," p. 374.

After further pressure, the General at length consented. Backhouse's description is thus concluded—

As I have said before, General Sale is personally brave—ah, brave as a lion!—but as a general he can do and will attempt nothing.

These extracts are from the independent accounts of two officers commanding corps in the garrison, both men of more than average talent and capacity. They are supported by the impression formed by the enemy prior to March 24th, and recorded in a letter from Akbar to Saadut Khan, in which he said that the garrison was on its last legs, not daring to go out of the fort, all such attempts being defeated by the appearance of half a dozen ghazis!

Hence it seems necessary to receive Sale's versions of occurrences with caution, and not to admit them as conclusive without careful examination.

It will be observed that the evidence quoted is not Broadfoot's, and therefore not open to the objection of being tainted by his alleged prejudice against Sale. But the existence of this prejudice is not proved. Sale's inactivity is often criticized, but he is never mentioned by Broadfoot in the severe terms used by the other members of the garrison. These abound in the original diaries and papers of various officers, who corroborate each other strongly, and leave, it is considered, but one impression as to Sale's conduct of the defence. Out of respect for his memory, the publication of more than seemed needful to support the opinion expressed in the "Career" has been avoided.

Broadfoot, on the other hand, has recorded Sale's bravery and exemption from the first depression; he has excused the General's inaction, because his wife and daughter were in the hands of the enemy, and his other shortcomings because he was wounded, ignorant of what occurred, and unequal to meet an extraordinary crisis. Even regarding the action taken at the first council of war, in his letter to Mackeson there is no complaint of Sale; he merely laments that such matters should be debated.*

But the most crushing evidence against his inactivity is furnished by Sale himself; for on April 7th, when he did go forth, he easily defeated the Afghans with the identical troops which were all along at his disposal.

One other matter requires investigation. The papers referring to the councils of war in General Sale-Hill's possession are, it seems, the original official records. Of these we know Havelock

* "Career," p. 109.

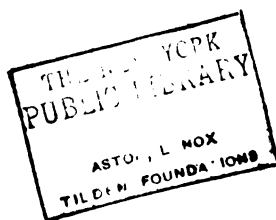
was somewhat suddenly deprived ; * and, to use the expression in the " Article," they " have all been buried in oblivion for nearly fifty years." It can readily be understood that after fortune had smiled on the garrison, and its commander had been congratulated on the firmness evinced in holding out, the record of negotiation for capitulation, no matter how incomplete, was inconvenient.† It was in Sale's possession, afterwards in his son's, and is now in the hands of his grandson. But it is a Government record as much as any of the other despatches relating to the defence, and its proper place is with them. If the documents were forwarded to Government, they can be traced ; if not, it would seem to follow that General Sale-Hill has proved the *suppressio veri* which, in his letter to the *Times*, he so indignantly denied.

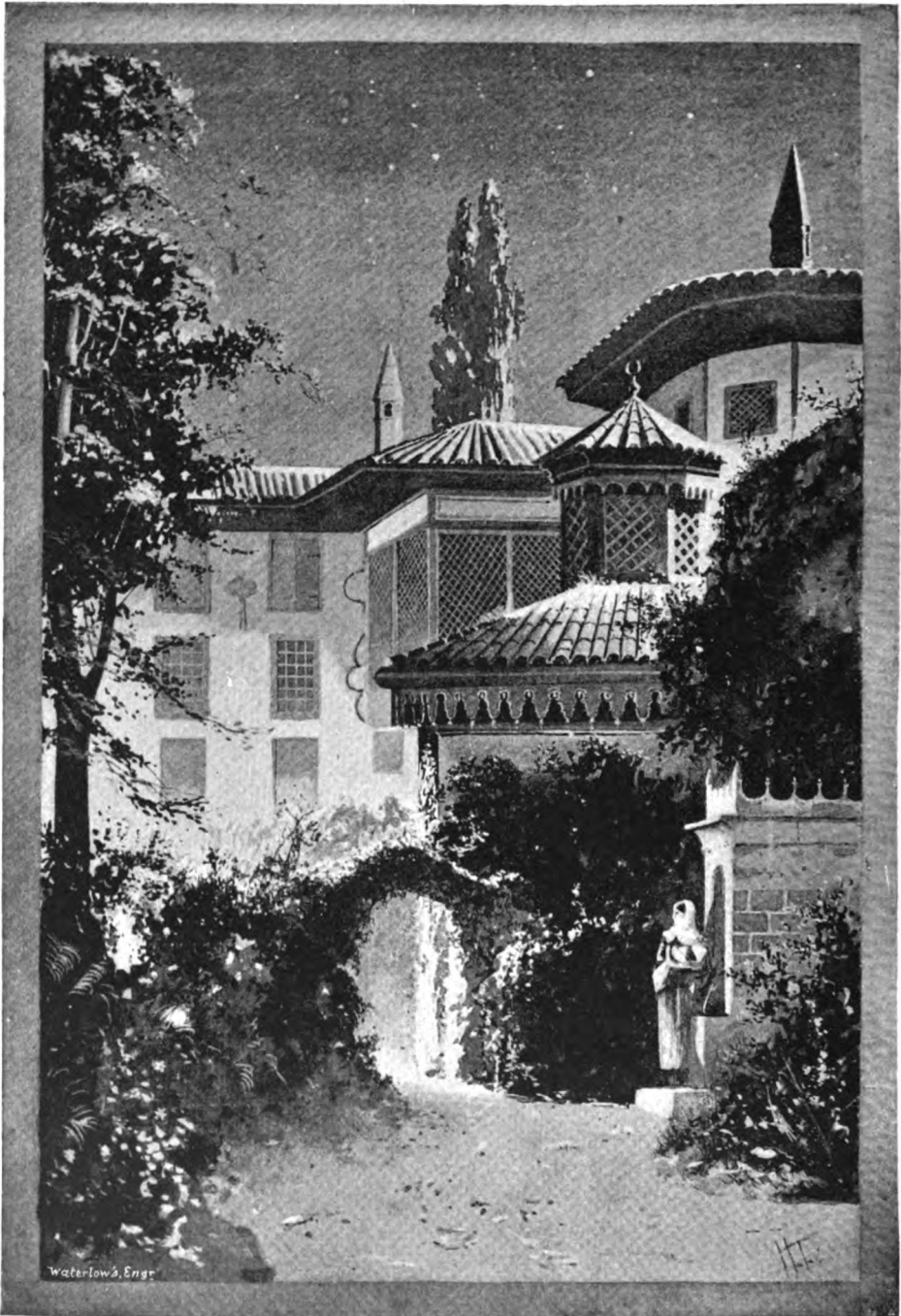
It is easy to sympathize with General Sale-Hill in his desire to replace his grandfather on a pedestal from which he honestly believes him to have been unjustly deposed ; the more so, perhaps, because the article he has written can scarcely, after consideration of these remarks, effect that purpose. It must, however, be recollected that they are based on the article and what is therein disclosed. Further research may possibly throw fresh light on the subject, and necessitate correction in the " Career ; " but so far, it is maintained, nothing has been adduced to weaken the conclusions therein announced or the evidence on which they are founded.

Public interest in the subject under discussion is so small that endeavour has been made not to exceed such space as may be kindly granted ; moreover, controversy is distasteful and rarely profitable. Hence these remarks are concluded with the sincere hope that in them the limit of courtesy has not been exceeded.

* " Career," p. 62.

† *Ibid.*, p. 108.





NIGHT IN THE GARDENS OF THE PALACE OF BAGCHI SERAI.
(From the Picture by G. P. Kondratenko, in the Imperial Academy, St. Petersburg.)

The Palace of Baghchi Serai.



ANY of our Crimean officers can recall to memory Baghchi Serai, the ancient capital of the Tartar Khans who up to a century ago ruled the beautiful peninsula of the Euxine Sea. Their subjects were the last surviving remnants of the devastating hordes of Mongols who swept across Europe in the thirteenth century, reducing Russia to servitude as they swarmed over the body of the prostrate giant. Russia and Poland, indeed, were the bulwarks of the European world against this flood of barbarism, so that the advance made by these nations in the path of civilization was proportionately retarded. Little more than three centuries ago the Tartars of the Crimea set Moscow in flames, and during long ages they were in the habit of making predatory excursions into the heart of Russia, burning, murdering, despoiling, and dragging the miserable inhabitants into lifelong slavery. Through this instrumentality the slave marts of the East were filled with the blond children of the North, whose lot it was, in the case of males, to recruit the corps of Janissaries, while the females went to stock the harems of the Pashas.

Tokhtamysh, a descendant of Gingham Khan, was the progenitor of the dynasty of the Ghireys, who for centuries ruled the Crimea. Assisted by Tamerlane, he became in his youth Khan of the Golden Horde, whose seat was around the mouths of the Volga. But the great conqueror, dissatisfied with his lieutenant, subsequently drove him from power, setting up one Timour Koutlou in his stead. After the departure of his suzerain, Tokhtamysh hurried back from Lithuania to dispute with Timour the possession of the Kipchak sovereignty, but was overcome in the struggle. Hence arose a feud between their descendants which, enduring for centuries, afforded Russia the coveted opportunity of regaining her lost independence; and henceforth the Tartars fell

asunder into three hordes: the Golden, or Great Horde, the Crimean Horde, and the Tzardom of Kazan.

Hadji Ghirey, a grandson of Tokhtamysh, was the actual founder of his dynasty. It lasted till the reign of Catherine II., and at times was a useful ally to Russia. Muscovite statesmen, by skilfully turning to account the *vendettas* which existed among their foes, were enabled to destroy them in detail. In the latter half of the fifteenth century, John (or Ivan) III., sometimes styled the Great, by means of alliance with the Crimean Khan, was enabled to throw off the yoke of the Golden Horde, and refuse to pay them the *haratch*, or tribute. Russia at this period was constantly embroiled with Poland, and all her warlike undertakings were greatly hampered by the incursions of the Tartars, who seized the moment when the Tzar was absent at the western frontier to lay waste his dominions and sweep his subjects into captivity.

Under Basil III., the successor of John, the Khan appeared before the walls of Moscow and extorted a re-acknowledgment of this tribute (1521), but the freebooter was attacked on his return journey near Riazan and defeated with enormous losses. But the day of barbarism had now passed by for ever, and John IV. (Ivan the Terrible) incited the Cossacks, waifs and strays of all sorts who as bandits were rising to notoriety in the south of Russia, to devastate the Crimea. In 1552 Kazan was subjugated by the same potentate, who also captured Astrakhan two years later; so that of the three hordes into which the Tartars were divided, one only, the Crimean, remained to harass the mighty empire which was springing into existence. Nevertheless, Dewlet Ghirey succeeded in burning Moscow in 1571, though he was ultimately routed by Prince Michael Vorotynski not far from that city.¹

During the interregnum in Russian history, which followed the extinction of the House of Rurick the Tartars gained a free hand and made ample use of their opportunities. Even after the accession of the House of Romanoff they recommenced the game of assailing Russia while engaged against Poland. The pliant Tzar Michael, the first of that dynasty, temporized, bribed the miscreants to forbear, sought the intervention of the Sultan of Turkey, and finally built a sort of Chinese Wall to keep them out of his territories. This expedient was attended with a measure of success; Moscow was no more laid under contribution, and, in 1641, the Cossacks, having stormed Azoff, at the mouth of the river Don, offered to hand it over to the Tzar.

But the over-cautious Michael declined the proffered gift, fearing to irritate the Sultan, and its captors were ordered to evacuate the town, which consequently relapsed into the Turkish hands. At this point of time the two Empires whose rivalry has ever since agitated the East of Europe first came into collision, the Crimea being then as in later days the scene of action. Absolutely the first occasion of quarrel was an intestine struggle among the Cossacks of the Dnieper, Russia supporting one faction, Turkey and the Crimean Khan the other. The former Power obtained a qualified success, and the difference was arranged by the Treaty of Baghchi Serai, which fixed the Dnieper as the line of demarcation between the "spheres of influence" claimed by the signatory Powers. In 1687 Princess Sophia, the ambitious sister of Peter the Great, in order to acquire popularity sufficient to pave her way to the throne she coveted, organized an expedition for the subjugation of the Crimea. Prince Galitzin advanced for this purpose at the head of 200,000 men, but did not succeed in entering the Peninsula, and a second attempt made by him in 1689 did not terminate with any more brilliant result.

But when Peter the Great became Tzar the day of Russia's greatness began to dawn on the horizon. That Empire, when he came to the throne, had no access to the ocean except by the arctic waters of the White Sea. Perceiving that intercourse with civilized Europe was not feasible without an extended coastline, he resolved to establish himself on the shores of the Black Sea, and in 1696, descending the broad waters of the Don in boats, he attacked the town of Azoff, which his grandsire Michael might have had for the asking. Failing in a first attempt, he renewed the operation when he had constructed a flotilla strong enough to beat the Turkish fleet, and thus ensure a maritime supremacy. This time success attended his efforts. Assailed by the Khan of the Crimea, he was able to retain possession of the fortress in spite of all combinations to eject him; and he held it till the disastrous affair on the river Pruth compelled him to relax his grasp of it in virtue of the treaty by which he purchased his safety. This barrier levelled, the predatory incursions of the Tartars were resumed on a comprehensive scale. Fifteen thousand Russian subjects were in one raid hauled off into bondage. Peter was about to undertake their extermination when death extinguished his mighty spirit, altogether prematurely for his country's interests and glory. The Crimean Tartars had by this time become mere vassals of the Sultan, servilely

obedient to his behests, and, when ordered to attack the Persian conqueror, Nadir Shah, they deliberately violated Russian territory in marching to the Caucasus. Such being the grievances of Russia, Marshal Münnich was ordered by the Empress Anne to devastate their country, and for the next fifty years hostilities between the two Powers contending for the Crimea were almost incessant.

In 1774, in virtue of the Treaty of Kainardji, the peninsula was declared independent, and thus came to an end the first struggle waged between the Porte and the Empress Catherine II. During its fluctuations, the Crimea was overrun by the Russians under Prince Basil Dolgoruki, who routed Selim Ghirey at Perekop, and elevated Sahib Ghirey in his place. The same Khan was retained on the throne after the Treaty of Kainardji, as the first independent ruler of the Crimea. His subjects were split asunder in two factions, the Turkish and the Russian, who filled the land with confusion and bloodshed. The adherents of the Sultan succeeded in expelling Sahib, who fled to Russia, and they raised Dewlet Ghirey to fill the vacancy. Then it was that the great Russian commander Suvóroff, having occupied the peninsula with a considerable force, reinstated the pro-Russian Khan. The Turks despatched an immense fleet under the Capitan Pasha, with orders to effect a landing, but all his attempts were foiled by the vigilance and address of the Russian chief. Exasperated by this mischance, the Sultan was about to declare war, when the mediation of France procured a temporary adjustment of the dispute, and, Shahin Ghirey having been recognized as Khan by both parties, the Russian troops took their departure. But this *modus vivendi* was of brief duration. Under a feeble ruler the Crimea once more became the arena of internecine strife and discord. The Turks having occupied Taman, on the eastern shore of the Straits of Kertch, the Russian Empress treated this act as a *casus belli*. In 1782 a large army under the notorious Potemkin entered the Crimea, while another body of troops assailed the Kuban, driving the Turks into the sea. The Khan withdrew into Russian territory; his subjects submitted to alien sovereignty, and the Crimea was formally incorporated with her empire by Catherine on the 20th April 1783. Thus, little more than a century ago, Mongolian savagery was still rampant within the boundaries of Europe.* In a degree not altogether so

* We are bound to add that the Crimean Tartars of to-day are a peaceful and industrious population.

shocking to the moral sense, this is still the case to-day south of the Balkan range.

Baghchi Serai possesses a literary as well as a political interest, and this we have endeavoured to typify by the illustration to which these lines have reference. The poet Pushkin's romance, *The Fountain of Baghchi Serai*, records a heart-rending episode which must have been of only too frequent occurrence in days when the lust, cruelty, and rapacity of the "Asiatic Beast" (thus has the Tartar race been symbolized by their Slavonic victims) seemed the dominant factor in the politics of Eastern Europe. The heroine of the tale, Maria, a Polish princess, has been torn from her home by a horde of Tartar marauders, who burn the paternal castle, slay her father, and ride away with the maiden, who is consigned to the harem of the Palace of Baghchi Serai. The Ghirey of the period falls desperately in love with her, but respecting her piety and virtue, forbears to molest her with his importunities. The scene opens in the Khan's audience chamber :

Lo ! Ghirey sits with downcast eye ;
The amber smokes his lips between ;
The servile Court all silently
Around their awful ruler press.
Within the Palace all is still ;
With awe and reverence all are reading
The marks of grief and rage exceeding
Which swept across his sombre face.
But, sudden, with impatient hand,
The haughty Master waves command—
With low obeisance all depart.

The Khan is in his halls alone ;
More freely beats his heavy heart ;
More freely too his brow compressed
Reveals the anguish of his breast :
The stormy surface of the bay
Thus glasses clouds which float away.

What is it that agitates his proud spirit ? Is he about to make an incursion into Russia ? Is Poland once more to feel the weight of his hand, or doth he fear the wiles of crafty Genoa ? No ; he is tired of martial glory ; his puissant arm is fatigued ; war is far from his thoughts. Has treachery penetrated the calm recesses of his harem ; has one of its inmates given her heart to the Giaour ? No ; the timorous wives of Ghirey, "neither daring to think or to wish, bloom in mournful tranquillity."

Lapped in the midst of joyless ease,
They know not of such treacheries ;
A dungeon's shade conceals, protects,
The charms no mortal eye inspects ;

Like eastern flowers of rarest scent,
 Behind a glass their lives are spent.
 Above their heads a tiresome row
 Of suns and moons and summers flow;
 Insensibly, and day by day,
 They ravish youth and love away.

Besides, a foul eunuch follows them everywhere. It is impossible to evade his jealous eye. He maintains "eternal order" within the precincts of the harem. The will of the Khan is his only law; the sacred precepts of the Koran are not observed by him with stricter vigilance. His spirit asks not for love; like a statue, he bears unmoved alike sneers, hatred, reproaches, the "pranks of insolent licence," contempt, questions, timid glances, tender sighs, and languid complaint.

Ways feminine he understood,
 Had studied them with all his skill
 In liberty and servitude.
 Soft looks, the mute reproach of tears,
 No more had power to make him feel;
 Believed them he had not for years.

He follows the girls even to the bath, looking on stoically at their naked charms. In the shades of night he wanders from couch to couch, listening to the whispers of the slumberers. Woe, then, to her whose lips pronounce a stranger's name, or who imparts improper thoughts to the fair partner of her couch!

The beauties of the harem are sitting around the fountain in the court-yard in expectation of the Khan. They employ their leisure in singing the praises of the Georgian girl, Zarema, his favourite wife. But she herself sits with downcast head, "like a palm-tree ruffled by the storm." For Ghirey has tired of her. He has abandoned her, spending his time in gloomy silence, ever since the Polish princess, Maria, was brought to the palace of Baghchi Serai. Maria is permitted by the Khan to inhabit a remote chamber of the harem, alone with her female slave; there the lamp is constantly kept burning before the image of the Holy Virgin. This sacred spot, amid the surrounding voluptuousness, resembles the one pure sentiment which remains to animate the corrupt heart of a libertine. Neither Ghirey nor the eunuch dares to penetrate its mysteries. Zarema is not so diffident. In the dead of night she evades the sleeping eunuch, and, creeping into the secret apartment, passionately adjures the Princess to leave her in possession of the love of Ghirey, which is hers by priority of affection, adding significantly as she departs, that she possesses a dagger and was born near the Caucasus. These dark hints throw the

Christian girl into an agony of alarm. Death itself would be preferable to the life of shame which seems to be her only prospect.

Days flew by, and Maria is no more. The palace itself is deserted. Ghirey has again departed, to renew his career of slaughter and devastation. Meantime, his beautiful wives are growing old; they wither in the harem under the guardianship of the gray-headed eunuch. Zarema, the Georgian girl, has perished long ago. Sewn into a sack, the mutes of the harem plunged her into an abyss of waters the very night when the Princess expired. Whatever Zarema's crime, she expiated it with a cruel punishment.

Having laid waste the Caucasus and the peaceful hamlets of Russia, Ghirey returned to the Crimea, and, in remembrance of Maria, erected a fountain in the courtyard of the harem. On its summit the Mahometan crescent was overshadowed by the Cross, and the young maids of the country have named it the "Fountain of Tears."

Our countrymen who wintered on the bitter heights of Sebastopol will hardly share the enthusiasm of the Russian poet, who, in concluding his narrative, thus dwells on the natural beauties of the Crimea :—

The Muses' friend, and of repose,
Ambition, love, both passed away,
Oh when shall I renew my stay
Beside the banks where Salguir flows!
I stand on mountains by the main,
Instinct with memories again.
The sight of the Crimean seas,
Mine eager eye with gladness fills;
Enchanting land, and formed to please!
All is so vivid, woods and hills,
Amber and sapphire of the vine,
The sheltering beauties of the glades,
And streams which the tall poplar shades,
The traveller's sympathies incline,
When at the silent hour of dawn,
Among the mountains by the sea
His courser bears him rapidly. . . .

Poets cannot thrive without mountains in view; and Russian bards can find them only in the Caucasus and the Crimea within the limits of their own country. The two greatest of them, Pushkin and Lermontoff, were, fortunately for their literary fame, exiled from St. Petersburg to these romantic regions, from which they drew their inspiration.

H. S.

Shooting Adventures in Paraguay.

By CAPTAIN C. P. BUSHE, R.N.



ON 6th April 1868, H.M. gun-boat, *Linnet*, under my command, anchored off Curupaiti, in the turbid waters of the river Paraguay, a few miles above its junction with the Parana at Tres Bocas, and in rear of the Brazilian fleet lying below Humaita. A squadron of ironclads had forced their way past the batteries of that fortress, passing over the chain across the river, which was then in flood, and lay at Tayi above it and the fortress, or rather intrenched camp, which was invested on the land side by the allied Brazilian and Argentine armies.

Not without difficulty and strong diplomatic pressure was the assent of the Commander-in-Chief of the Allies, the Marquis of Caxias, obtained to the presence of the *Linnet* in the Paraguay.

Her object in those waters was to endeavour to display the British flag so as to be seen by the British subjects in the service of the Paraguayan Government, who were believed to be forcibly detained by the Dictator of Paraguay—President Lopez—and also to get them away if possible.

For this purpose I had sent a letter to President Lopez through the Brazilian authorities, who forwarded it under a flag of truce, announcing the arrival of the *Linnet*, and requesting that any British subjects who wished to leave Paraguay might be enabled to do so.

The sad story of those unfortunate men, their sufferings and hardships, and the cruelties inflicted on them, has been fully given to the world by the survivors. I shall only say that in the hope of rescuing them the *Linnet* remained in the river Paraguay until October, accompanying the Brazilian fleet in their advance up the river, after the fall of Humaita, until it was checked by the batteries at Angosturas, a few miles below Asuncion. Nor will I speak of that conflict, à outrance, some stirring incidents of which occurred under my own observation. Abler pens have

described it ; yet I would wish to testify as an eye-witness to the devoted valour of the Paraguayan soldier.

I am no admirer of that ruthless tyrant Lopez, whose ambition caused the ruin of his country, though he died a soldier's death at last, pierced through by Brazilian lances ; but no words can do sufficient justice to the discipline, the tenacity, the endurance of those valiant semi-Indians, for such were the rank and file of the Paraguayan army. Outnumbered, ill-armed, often half-starved and half-naked ; their muskets, smooth-bore cannons, and canoes were opposed to rifles, Whitworth guns, and ironclad turret-ships. Yet did their stubborn courage often redress the uneven balance and make for a time the issue doubtful. They were, indeed, "true to the last of their blood and their breath." Nor did Paraguay yield to her conquerors till the manhood of the nation was nearly exterminated on many a bloody field.

At the date mentioned, however, the garrison of Humaita held out, and for many a week afterwards ; and there the *Linnet* lay anchored, as requested, near the right bank of the river, here about 700 yards wide. It was a trying and irksome period for all on board. The weather was close and oppressive, with thunderstorms and much heavy rain. Owing to annoyance from mosquitoes, indifferent food, and its being impossible to give leave to the crew, all suffered in health more or less during our absence of nearly eight months from Buenos Ayres.

I had, in addition, no trifling weight of anxiety and responsibility, being virtually in a semi-diplomatic position. I had to conduct a heavy correspondence with the *chargé d'affaires* at Buenos Ayres, as well as with my commander-in-chief, well known as one of the "tautest" hands in the service. Unfortunately these high naval and diplomatic authorities were on the reverse of amicable terms ; and, as I came between "the incensed points of mighty opposites," my position was a difficult and precarious one. The proverbial impossibility of serving two masters was fully brought home to me. I only escaped professional ruin by the skin of my teeth, having been reported to the Foreign Office. Happily for me, the Admiralty approved of my proceedings and supported me ; and eventually all went well, but for months I was kept in suspense as to my fate.

From time to time I received despatches from the Paraguayan authorities in Spanish, from the Brazilian in Portuguese, of which I had to make and send off translations. As to the latter, especially, no easy task, there being no Portuguese dictionary on

board, or anyone who spoke that language; but it was done somehow, and to my surprise I found these documents and many of my own official letters embalmed in a Blue-Book.

This reached Buenos Ayres about the date of my return, and in South America was eagerly read, with the startling result that I found myself considered an authority on the conduct of the war, and "men of light and leading" in those regions sought to "interview" me, from the "able editor" of the *Buenos Ayres Standard*, to H.I.M. Dom Pedro—an honour as embarrassing as unmerited.

I knew that the Brazilians were prepared to use force, if necessary, to prevent the *Linnet* passing through their fleet up the river; on the other hand, after Humaita fell, an order from Lopez was found that, should the *Linnet* attempt to pass up without his permission, she was to be sunk. On the whole, my post was just then not an enviable one in any way. I felt that the most careful steering might not clear me of Scylla or Charybdis; besides, there was much personal discomfort.

The river was swollen by prolonged rain, and rushed passed at about four to five miles an hour. From time to time, floating islands, torn from the banks—sometimes twenty or thirty yards long—drifted across our bows with a thud that shook the little craft. From one of them an animal about two feet long, covered with green scales, scrambled on board; I suppose, of the armadillo species. The Chaco bank, near which we lay, was low—a wooded tangle of swamps and lagoons. We heard the yells of jaguars at night very close to the bank, but none were seen, though their fresh footprints were sometimes visible on the muddy banks. I was informed that a couple of Brazilian wood-cutters had been carried off by them.

As to mosquitoes, I had previous painful experience of them, in Burmah especially, but I think the Paraguayan mosquito is unequalled for venom, size, and voracity. During the day they were comparatively quiet, though they had a nasty trick of taking a mean advantage as one sat in a cane-bottomed chair. I have seen, later on, a plump diplomatist, fresh from Buenos Ayres, keep starting up during dinner-time as if pricked with a red-hot needle. At about sunset I often observed a small bluish cloud coming off from the swamps; this was entirely composed of mosquitoes. A rush would then be made to put in scuttles and close skylights, and, in spite of the stifling heat, all who could dived below; but the enemy would not be

denied; thin skins, like mine, fared ill. Some of the men paced the deck all night in sleepless misery, others made blanket bags, and sweltered in them to escape their bloodthirsty foes. When writing in my cabin at night, with head, wrists, and ankles tied up to circumvent them, my despatches have been marked here and there by mosquitoes glued to the paper by my blood. Although I had a mosquito curtain fitted to my bed, which was some protection, I have been so fevered by my persecutors, that I sometimes rushed on deck, and taking a turn of a rope's end round my hand, jumped overboard, and lay on my back with the rapid current rushing over me, and the bright moon above, till I felt cool and refreshed; then hauling myself on board, and laying about lustily with a towel, made a bolt for my bed sure of some sleep. There was on board a small Spanish pointer with a double-barrel nose, called Dolly, of whom more anon. She was so much worried by these pests that once she deliberately jumped overboard from the gangway, and made no effort to keep afloat. A boat was quickly sent and she was saved with difficulty. We concluded that she had decided that "life was not worth living" under the circumstances; but better times were at hand for her and for us.

After some time the weather improved and the river began to subside. One day we noticed something bobbing about just awash, a few yards on our quarter; a boat was sent to examine it, and it proved to be a torpedo, which was brought on board. Directly afterwards an officer came from a Brazilian sloop near us to claim it and it was given up to him. Some weeks afterwards, however, we had occasion to sweep for our kedge anchor, and, in doing so, a whole cluster of torpedoes, perhaps a dozen, were raised to the surface; two were taken on board and carefully dissected, the rest cut adrift. Though rude weapons compared to modern torpedoes, two of the Brazilian fleet, one the ironclad *Rio de Janeiro*, had been sunk by them. They had been made under the supervision of a citizen of the United States, an engineer in the service of the Paraguayan Government. He was finally "hoist with his own petar"; having set forth one evening in a canoe, intending to sink a Brazilian ironclad, the torpedo exploded prematurely, and he was seen no more. The torpedoes raised by us had doubtless been carried down from their positions by the force of the current, and had probably been submerged for months, yet the powder contained in the copper-covered cylinders proved to be perfectly dry, and was useful for sporting purposes. We had now

found that we were in a land of game, a great compensation in our dreary lot. Feathered game was abundant; deer were never seen by us. Once I came on three peccaries on the Chaco side; they instantly disappeared in the dense jungle. Alligators might indeed be shot occasionally on the banks of mud, also the carpincha or river-hog, which much resembles a huge guinea-pig in shape, but they are worthless for the table, though we found the very young carpincha much like sucking-pig. After a course of "carne cansada" or tired beef, obtained from the Brazilian contractor—rather a parody on the roast beef of Old England—only varied by salt provisions for some weeks, it may be guessed that a good supply of duck and partridge was appreciated.

I had, of course, called upon the Brazilian general, Argollo Ferrão, commanding at Curupaiti, and found him most courteous and obliging—indeed I can say the same of all the superior Brazilian officers, naval or military, with whom I was brought in contact; from him I obtained a pass, authorizing the bearer to shoot in rear of the position occupied by the allied army. Of this I and my second in command, who was as keen a sportsman as an excellent officer, made good use, and we usually kept our little mess well supplied with game, sometimes also the sick.

Little Dolly, already mentioned, belonged to my fellow sportsman, and we took her with us in turns; she was a self-taught genius, having been brought up on board ship from a puppy. Her lamented father, Bob, was unfortunately drowned at Corrientes, and she had never scented a partridge until taken for a walk one day at Curupaiti, when the truth of the proverb "*Bon chien chasse de race*" was proved. She discovered that her vocation was partridges, and in a week she was all that could be wished, and was indeed invaluable.

The left bank of the river was much higher here than on the Chaco side; from it the ground extended in a level plateau, until swamps and small lakes separated it from an undulating country covered with yellowish grass. Wherever that grass grew partridges were to be found; they are rather smaller than the English partridge, and always lie close and rise singly. The greatest number I ever got in one day was seventeen brace. The larger partridge, exceeding a grouse in size, is very rare here. Once or twice I came on swampy ground more thickly packed with snipe than any Irish bog I ever saw; but what made the heaviest bags were the ducks. They were of several sorts, and all very good eating—never fishy. Chief among them was the splendid "*Pato reale*," truly a royal

duck. These birds are as large as a goose in frame, but more graceful in shape; they are wattled like a Muscovy duck, have a great spread of wing, and fly with great velocity; on each wing is a circular white spot as large as a man's hand; the rest of the plumage is glossy black, shot with purple and green. I have got three or four in succession by standing in a marsh in the dusk of the evening, when they came in far apart to the feeding grounds, and aiming well ahead. With what thuds they came down, making the water of the marsh fly! I have shot them up to 10 lbs. weight, and have heard of their exceeding that. If at all fat, they might easily do so. They have a curious habit of roosting on the top-most branches of trees. I have shot two or three in the early dawn by dropping silently down the river in a boat. It is then very difficult to distinguish them from dead branches.

Another large and handsome duck was called by our negro pilot the Maroico; it has a bulbous excrescence above its bill, in which the nostrils are placed. There are also great numbers of the red-necked whistling duck, and a very pretty species of teal. I have seen the sky almost darkened by ducks after the report of my gun—

That sent the face of all the marsh aloft,
An ever-upward rushing storm and cloud
Of shriek and plume.

The startled birds would whirr round my head in a bewildered manner, giving me shot after shot. It was, in fact, a new experience for them. Paraguayans had no powder to waste on game.

There were many species of birds, few of whose proper names I am able to give, unfortunately; among them the rose-tinted spoon-bill, rarely to be got, crested cranes, birds of the bittern species, large bright-coloured water-rails, great grey-crested curlews or plovers, a pretty little marsh bird called the jacana, tasting very much like snipe, flocks of parrakeets, and two sorts of pigeons—one like our wood-pigeon, the other resembling a small dove.

Many a pleasant hour did I pass in those happy hunting-grounds, and have sometimes returned with as much game as I and a blue-jacket I usually took with me could well carry. The heat was often very exhausting in the middle of the day, yet I continued well as long as I was able to get shooting.

This amusement, however, was not devoid of risk, as I had ample reason to know. One afternoon I walked alone to the remains of the lines of Curupaiti, from which the Allies were repulsed with great slaughter—5,000 killed and wounded—in September 1866. Having rashly assaulted in front a strong position, they

were mown down by grape and case from 8-inch guns, and their advance was checked for many months. Here were numerous small pools, the haunt of water-fowl, among whom was one sort we called the Banduria Muria, our pilot being our authority on such matters; it was black, or very dark brown, and about the size of a large chicken, which it much resembled in taste. Having seen nothing, I was just departing from this gloomy spot, when the angry hum of a conical bullet very close to my ear caused me to turn round sharply, and there, on the opposite side of a piece of water, not over 30 yards broad, was a negro Brazilian soldier reloading his Minié rifle. My first impulse was to return his fire, and I levelled my gun at his head. At that distance a couple of charges of No. 6 would have certainly spoiled his shooting and beauty; but I checked myself as my finger touched the trigger, and, lowering my gun, proceeded instead to shout at him in bad Spanish and worse Portuguese that I was the "Commandante da Canhoneira Ingleza"; that I would report him to the Marquis of Caxias, and have him hanged, &c. He understood me well enough, however, and muttered something about having fired at a yacaré (alligator), which was, of course, absurd. He began to "slope off" when he had finished loading; I stood at the ready, watching him till he disappeared in the brushwood, by no means sure that he did not mean to have another pot at me, as he kept looking round. I afterwards heard that these negro soldiers usually shut both eyes before they fire; but certainly, though he missed me, it was only by an inch or two. I have no doubt he meant to murder and rob me; he must have been hiding in the bushes until I turned my back. The rank and file of the Brazilian army was chiefly composed of liberated slaves. I was told that they behaved well in action, and endured hardships cheerfully, though, of course, there were some very "black sheep" among them.

My next adventure was with a snake; I saw few on my shooting excursions. Once I had a glimpse of a large python, probably twelve to fourteen feet in length, and as thick as a man's leg, gliding among the reeds by a lagoon on the Chaco side.

One day I was shooting, accompanied by the commander of the *Beacon*—which had been sent up with provisions and stores for us, the admiral having decided not to relieve the *Linnet*—when a small snake struck at Dolly. She drew back so smartly that I thought her untouched, and blew her assailant to pieces; but I suppose she must have been grazed by the snake's fangs, though I could see no mark, for she soon began to stagger and tumble about, and looked so

wild and strange that my companion suggested that she was going mad. She then became nearly insensible ; I thought her dying, and forced a little brandy and water down her throat. However, after lying quiet for over an hour, she recovered, to my great joy ; and, though shaky on her legs at first, soon got quite well, and was able to resume her "delightful task."

Another day I was alone with Dolly, on partridges intent, when I saw her pointing ; I was hurrying up to her between some bushes, when something tripped me up. I felt as if a soft thick rope had caught my ankle, and, staggering forward, nearly fell on my face. On looking back, I found that I had stepped into the coil of a snake and torn it open ; it was doubtless asleep, and, whether venomous or not, had no time to strike me ; it seemed about seven feet long. I could easily have shot it then, but, having watched it go under a bush, I concluded to relieve Dolly of her charge first. I muffed that bird ; but I felt there was some excuse for me. I then went back to look for the snake, but could find no trace of it, though I searched carefully.

So far I had escaped scot free ; but I was not destined to be so in my next "moving accident," literally "by flood and field." The 11th July 1868 was a date not easily to be forgotten by me : in the broiling afternoon of that day I started for the yellow grass region, accompanied by a young blue-jacket and Dolly. The shortest way to reach it was by wading through a marsh a couple of miles broad, in most places about knee deep, in others deeper. I got a teal or two by the way ; and, on the chance of a stray snipe, had one barrel loaded with No. 7, the other with No. 4. I may here say that my gun was a muzzle-loader, and that the worm of my ramrod had been broken off and lost some days before.

At last the dismal swamp was passed ; we landed on a low promontory projecting into the marsh, and Dolly ran on ahead ; but scarcely had I followed her for a hundred yards before I saw her flying back to me for protection, pursued by a bright red bull with horns projecting about a yard on each side of his head. I had never seen any horned cattle when out shooting there before. This bull was solitary, and probably a "rogue" gone wild.

When shooting in Uruguay I had seen cattle assume a menacing attitude, but had always found that shouting and waving my arms sent them off. I tried this now, but without effect, as he approached looking dangerous. I gave him a charge of snipe-shot at twenty yards, thinking it would make him "sheer off" ; but not so, he came on full charge, receiving the contents of my second

barrel in his face when hardly a yard off. The next second his forehead struck me full in the chest, and I went flying through the air as if shot from a mortar. I am a light weight ; and I feel sure that I travelled fifteen yards before I touched the ground, from the force of the driving blow. The shock took my breath away, and in a moment my enemy was again upon me, nearly falling over me, and then began to try to toss or gore me. Fortunately for me, his horns were ill-adapted for tossing ; he turned me over with one horn two or three times, I felt the point slipping on my jean shooting coat, and lay perfectly stiff and still. Doubtless he thought me dead, for he suddenly left me, and went to the edge of the swamp to look after the blue-jacket, who had promptly bolted into it, followed by Dolly. I then picked myself up, and finding that I had no bones broken, and that any blood on my coat was not mine, I hastened to the marsh, where I stood on a tussock. There was no time to lose, as he quickly returned to the spot where he had left me, which was about thirty feet above the level of the marsh, and stood there watching me, and stamping occasionally.

The blue-jacket who was unarmed, and thought me killed, was far in the distance, "making tracks" for the river. A hearty hail brought him back, when he earnestly implored me to come away, saying, "He has got his eye on you, Sir, and he'll be at you again !"

I was in no mood to take such advice, and only gave him the alternative of either staying where we then were, to take off the attention of the bull while I went, or to work round in his rear and recover my gun and hat. He preferred the latter, and, making a wide *détour*, succeeded in getting them unobserved by the bull, who I think must have been somewhat dazed by my second shot at such close quarters. I then loaded with duck-shot, and a little extra powder, and walked towards my enemy. He let me come pretty close ; I aimed at his eyes and pulled the trigger, but no explosion followed. Just as he charged I fired the second barrel in his face, and fled into the marsh ; he chased me to the edge, but no farther, and then retired to his former post. On examining my gun I found that in the fall the right nipple had got choked with earth : I cleared it, pricked in powder, loaded left barrel, and went for him again. Perhaps some who read this may consider it rash and absurd to attempt to defeat such a powerful animal as a bull with duck-shot. If so, I can only plead in extenuation that I was not the aggressor, and that I was determined not to leave him victor in the fray if I could help it. Again I got within about twenty yards, and, as I saw him lower his head to charge,

I gave him the contents of the first barrel fair in the face, hoping to blind him. He was hard hit, for instead of charging at once, he wheeled partly round and exposed his neck, at which I fired my second barrel, aiming below the ear. I hoped to see him drop, but far from it; for the first time he gave a roar, sprang into the air, and charged with such fury that he all but caught me before I dashed into the marsh, followed by the bull this time. I heard him splashing and panting behind me, and hardly had I gone fifty yards before I stumbled, and down I went, over head and ears, gun and all, in the filthy mud and stagnant water. I thought it was all over with me; but my guardian angel did not desert me. When I was able to clear the slime out of my eyes, there was my enemy, bogged and helpless, a few yards behind, bleeding freely from the mouth. I saw that he could never leave the swamp, and with the intention of giving him the *coup de grâce*, attempted to sponge out my gun, tearing a piece of lining from inside my hat and twisting it round the butt of my ramrod; but it jammed so tightly in the barrel that it was impossible to withdraw it, and only with the aid of a vice was it removed afterwards. Reluctantly, therefore, I "left him alone in his glory," and returned to the river, encrusted with mud, feeling somewhat shaken, and stiff and sore afterwards, but otherwise none the worse. It was a sharp lesson, showing the need of carrying bullets for such emergencies. A famous African traveller, who was afterwards my guest on board the *Linnet*, the author of *The Battle-fields of Paraguay*, told me it was by no means an easy thing to blind a large animal with shot, as I had attempted to do.

Here I must close my reminiscences of a stirring time. Little shooting was to be had after the evacuation of Humaita, though there was plenty of interest in the scenes we witnessed. Twenty-one years have passed since then; the mystery that long surrounded marvellous Paraguay has been dispelled; that military wasp's nest, the dread of South America, is destroyed effectually. Probably the record of that fierce struggle is already "ancient history" to the present generation. Yet those scenes of war and sport remain for ever vividly stamped on my memory; and sometimes, in the grey, foggy English winter, it is pleasant to recall, as if seen yesterday, a vision of a great, still lagoon, off the rapid river, bathed in tropical light, the monkeys hanging from the trees overhead, the wheeling flight of flocks of parrakeets, the harsh cry of the forest bird—while, booming in the distance, reverberates through the woods "the diapason of the cannonade."

Some Notes on Military Topography.

By CAPTAIN WILLOUGHBY VERNER.

PART VIII.



IN all the foregoing chapters, the subject of sketching has been dealt with on the assumption that the operation was carried out openly and with no attempt at concealment, with the exception that any man engaged in reconnoitring an enemy's position or line of outposts would naturally endeavour to attract as little attention as possible, both for the sake of the success of any impending operations and for the safety of his own skin.

But it may readily be conceived that it may fall to the lot of an officer to reconnoitre and report on a portion of country with a view to military operations in it at some future time, the inhabitants of which might justly resent any attempt to survey or sketch or otherwise spy out the land.

A cavalry sketching-case used under such circumstances would be almost certain to attract attention. A prismatic compass would be useful at times for taking and recording bearings, but this could be done with one of the compasses I advocate, used in the manner laid down in Part II. (p. 1867, Fig. 5). As a matter of fact, however, an officer engaged in reconnaissance work of this description ought to carry a special form of instrument known as a "watch-compass." This, as its name implies, is a compass shaped like an ordinary watch (not a hunting-watch), which carries a good floating card about $1\frac{1}{2}$ to 2 inches in diameter. On one side of the dial is a small mark or indicator, and the direction of any object is readily and easily observed, with sufficient accuracy, by holding the compass by the handle, in a similar fashion to that in which a watch is held when looking at the time,

and noting the graduation on the edge of the card that coincides with the index point. Fig. 1 shows this form of compass in its most approved pattern, the index in this case showing that the bearing of the object is 285° .

To those who may imagine that this process is a reaction in the direction of prismatic compass-sketching, since it entails the plotting of angles, &c., I would point out that the watch-compass is incomparably more secret in its use and less liable to attract attention than is a prismatic compass, or any other compass used in a similar fashion, since a man using it appears as if he were simply consulting his watch.

To obtain the best results from a watch-compass it should be carefully selected with a card so balanced as to rapidly settle.

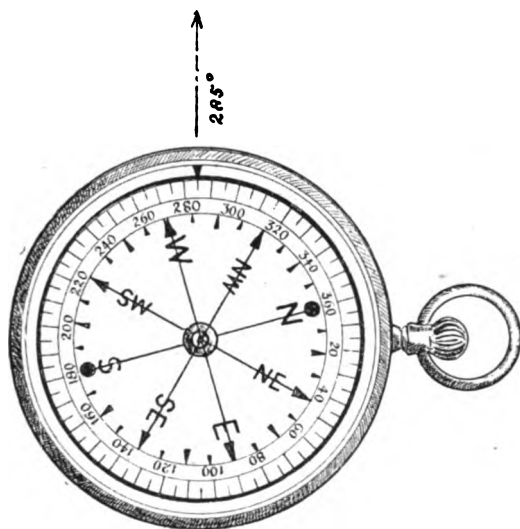


FIG. 1.

A sluggish card is invaluable for this class of work, always supposing that it does not stick.

The compass should be carried by a cord round the neck and stowed in a small pocket high up in the breast. Angles are taken from the breast.

Colonel Mark Bell, V.C., R.E., who has traversed many thousands of miles of road with one of these instruments, working at an average rate of three miles an hour, recommends the use of a watch-compass in conjunction with "sketching by time." The various changes of direction of any route followed being noted with the compass, and the distances recorded in a pocket-book in

hours and minutes. The rate of the mover will then enable the distances covered to be subsequently plotted off by any draughtsman. The process is, of course, very similar to that employed with the cavalry sketching-case when "sketching by time," with the exception that the bearings, "time," and "pace," and also the nature of the road, objects seen, &c., are entered in the pocket-book without attracting attention, in place of actually delineating them on the paper on the spot as with the cavalry sketching-case.

To do either class of work with the best results, the position of the reconnoitrer should be checked by night by astronomical observation.

Colonel Bell executed a reconnaissance of 800 miles on horseback in Asia Minor, at a rate of 25 miles a day, with an error of only 10 miles in longitude, and *nil* in latitude, a good proof of the great value of such a system as a check on the small errors which must inevitably creep into a day's work based on a "sketch by time." These errors, as in the case of the forward bearings taken with the cavalry sketching-case, appear to a great extent to counterbalance one another in a long traverse. The astronomical observations are particularly valuable for detecting and eliminating any errors caused by an erroneous estimation of pace when working by time.

On one occasion when sketching on camel-back by "time," and before I had become thoroughly accustomed to the paces of the animal, I fell into the common error of over-estimating the pace we were travelling at, with the result that the route sketched showed about 42 miles between the two points of departure and arrival, the true distance being only 35. In such a case, the error could have been easily corrected by a simple observation of latitude (since we were travelling due south), and the reconnaissance when reproduced by any map-maker could have been pentagraphed to the correct scale.

When working with the watch-compass on horseback, it is an advantage for two horsemen to be together, so that when a halt is made the horse of the operator may remain motionless whilst the angle is being taken. The rate of the advance and consequent distance covered is best kept by one animal or by a party, such as the baggage animals or carts, which usually move at a very uniform pace.

It is hardly necessary to add that before a man can produce reliable work with a watch-compass he must be well up in the more accurate methods of observing bearings. He thus has a good

idea of the points which need especial care, and knows when and where errors are likely to arise, and how he can best counteract, or at least minimize them. By such means only can he expect to attain to accuracy, and render the whole work good.

Now although, as has been shown, a good "watch-compass" is an invaluable adjunct in such a class of reconnaissance, other pocket magnetic compasses can be used in a similar fashion with fair results, provided they are not too sensitive. The lid (if there is one) must be taken off by knocking out the pin in the hinge, and a mark extemporized as an index wherewith to read off the bearing shown by the card. In my own pattern compasses the clamp serves as a good index point, or the index-bar itself can be set across the glass as an indicator, and I have done fairly accurate work with one used in this fashion. Small compasses with light card dials come to rest usually with great rapidity, and are particularly handy for this sort of work where an approximate bearing only is required. I have used one an inch in diameter, let into a wooden ruler, with good results. The object of having it in the protractor is to enable the direction of the road to be better observed, since the eye has such a short line to prolong in the direction of the object when a very small compass is used.

A protractor is of course a necessary adjunct to the compass, so as to enable the observed bearings to be plotted off subsequently, hence the two are very suitably combined.

Although a protractor as an instrument for laying off angles simply plays but a comparatively small part in military sketching on the lines I advocate in general, there are occasions when it is of the greatest aid. In taking a bearing off a map with a view to a reconnaissance in any required direction, or for regulating the compasses for a night march, as has been already explained, it is often a most convenient adjunct. Also in the exceptional cases where bearings have been observed and require plotting it is, of course, indispensable.

Hence some form of protractor is a very useful article for an officer to have in his kit. As is well known, they are made in every conceivable pattern, the most generally useful being those that are well furnished with the scales and formulæ most commonly used in field-sketching, to the exclusion of those which are more applicable for geometrical drawing. Since maps on a scale of 1 inch to a mile will very often have to be studied by a British officer, divisions showing hundreds and thousands of yards on that scale are of great value.

Of course every good field-protractor should show the usual scales in hundreds of yards at 6 and 8 inches to a mile (and consequently at 3 and 4, &c.), and also have a good scale of normal horizontal equivalents. It is exceedingly useful to have a portion of the edge of the protractor divided into inches and eighths and also tenths of inches.

This is especially handy when studying any small strategical map, as it enables any distance to be readily reckoned in miles, since small scale maps are usually made at so many miles to an inch. It is a common fault to find the scale of inches engraved on the middle of a protractor, in which position it is impossible to make use of it in a hurry.

A good clear diagonal scale of inches reading to two places of decimals is useful where any scales have to be worked out and constructed.

Any available space on the protractor can be utilized by adding any useful formula, which experience proves are constantly required in military topography.

With such a protractor no man ought ever to be at a loss to solve any problem in sketching or map-making.

One of the commonest wants of beginners in sketching is a clinometer for measuring the slopes or angles of depression and elevation. For a clinometer to measure with any accuracy, a spirit level is necessary; the most portable form for field work being "Abney's level." With this little instrument very good observations can be made. All other clinometers for field service that are sufficiently portable are, as far as my own experience goes, only capable of giving approximate results.

For a long time I used the old Sandhurst "Orometer," and, in fact, adapted it to the cavalry sketching-case with very fair results. The string was, however, a constant source of annoyance, and I have now taken to a light metal plumb-bob. This swings on a pivot working inside of a small bit of spiral spring, which causes the plumb to jam when not in use. To use the clinometer, the spring is compressed by means of a stud, and as soon as the plumb-bob has steadied down the finger is removed from the stud and the plumb-bob is jammed. The degree of slope is then read off the graduated arc. The idea is a very old one, and numerous clinometers have been made more or less on this principle. When well-constructed and carefully used, very good rough results can be obtained. Observations taken with such an instrument should be repeated once or twice so as to ensure that the plumb-bob has

not stuck, a common occurrence in careless hands. This pattern of clinometer has the great advantage that it can be combined with a protractor, or fitted to the back of a cavalry sketching-case, thus obviating the carrying of another instrument. It also measures the profiles of hills, which some patterns of instruments cannot do. Fig. 2 shows this clinometer on a field protractor, whilst in Fig. 3 it is shown on the back of a cavalry sketching-case.

If made of an extra size, viz. 3 in. \times 5½ in., it will be found to carry a small compass very well, as shown in Fig. 2. This compass has an index line on it, and turns in a collar, and can be used for rough sketching purposes on exactly the same principle as the cavalry sketching-case. When such an article is not forth-

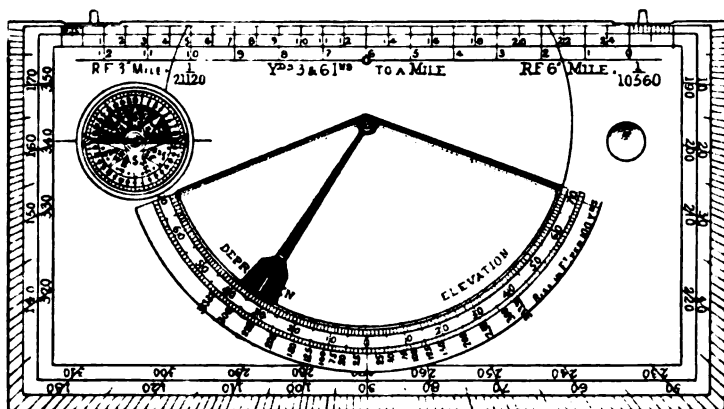


FIG. 2.

coming, the protractor can be lashed to a board in such a manner as to make an extemporized sketching-case, minus the rollers of course.

It can also be used as a "watch-compass," as already explained, and is provided with a card showing divisions of 5 degrees for this purpose.

Before concluding these chapters on field-sketching, it may be of use to some if I endeavour to show how good, useful sketches can be made by a man alike destitute of plane-table, prismatic or pocket magnetic compass, protractors, clinometers, or any other accessories, provided he has a fair-sized service pocket-book of a useful type, and knows how to set about his job.

It is no doubt owing to the unserviceable nature of all uniforms that men can never be induced to provide themselves with a pocket

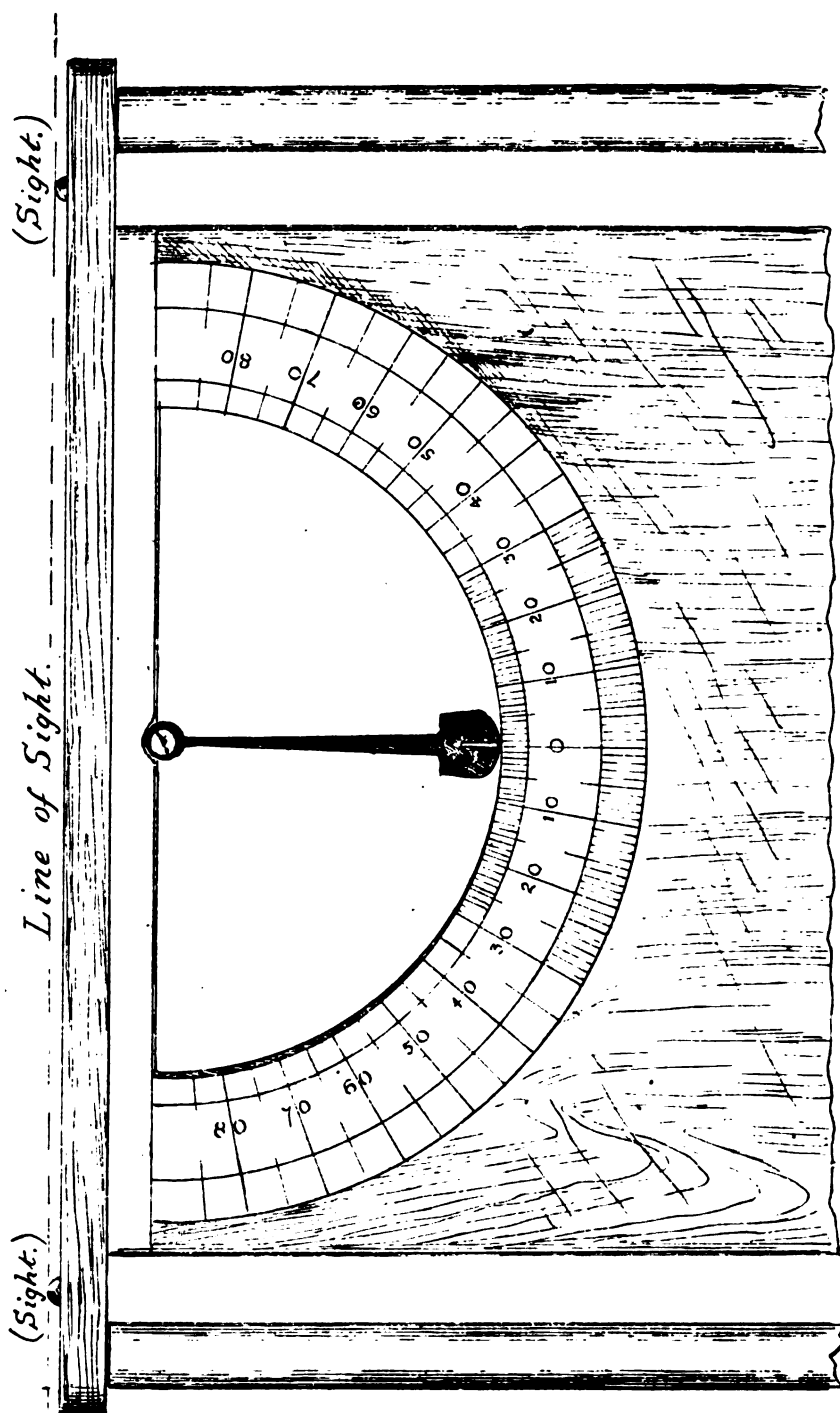


FIG. 8.

book of any practical value in times of peace, during manœuvres or at field-days. They simply have no place to carry such an article, and hence one commonly sees note-books produced which would be far more suitable for betting than for military purposes, and are, in fact, utterly useless for the latter.

In choosing a note-book for service, all preconceived notions must be dropped, and an article really capable of being used for making rough plans and sketches, in addition to writing notes, orders, &c., selected. Lord Wolseley recommends a pocket-book 7 inches by 4 inches of metallic paper ruled for writing, and with the alternate pages ruled in $\frac{1}{4}$ -inch squares. This is unquestionably the very minimum size possible, and is rather too small if a man wants to do much sketching; 8 inches by 5 inches will be found to be a more convenient size for work, but correspondingly less convenient for carrying.

However, size is a question of individual taste, and the man who expects to have plans or sketches to make would no doubt be inclined to carry the larger size, in spite of its bulk.

For comfort and ease, both for sketching and writing, a note-book should be divided into two portions—that for writing ruled faintly with lines $\frac{1}{4}$ inch apart, and the sketching part made as a block, and ruled with $\frac{1}{4}$ -inch squares.

All the leaves should be perforated at their top edge, so as to be readily detachable when required. There should be, of course, suitable pockets capable of carrying envelopes or papers, and there should be also a special pocket for graphite paper for keeping a duplicate copy of any important orders, &c.

Elastic bands should be attached to each side of the cover to secure the loose leaves, and render the book more manageable in windy weather.

Of course, with such a note-book, good rough plans and sketches could be drawn by eye, the squared paper affording the usual facility for marking off distances. I advocate $\frac{1}{4}$ -inch squares in preference to 100 yards to the inch, at 4 or 6 inches to a mile, as usually provided, and for the reason that the $\frac{1}{4}$ -inch affords a known measurement, alike suitable for plans and sketches. Thus for a plan on a scale of $\frac{1}{4}$ inch, or 8 feet to an inch, each square would represent 2 feet. Again, when sketching, each square can be reckoned as 100 yards, which would give 400 yards to an inch, or for a small scale reconnaissance, at 2 inches to a mile, each square would represent a furlong, or 220 yards. But to make a pocket-book absolutely complete for rough sketching, one small

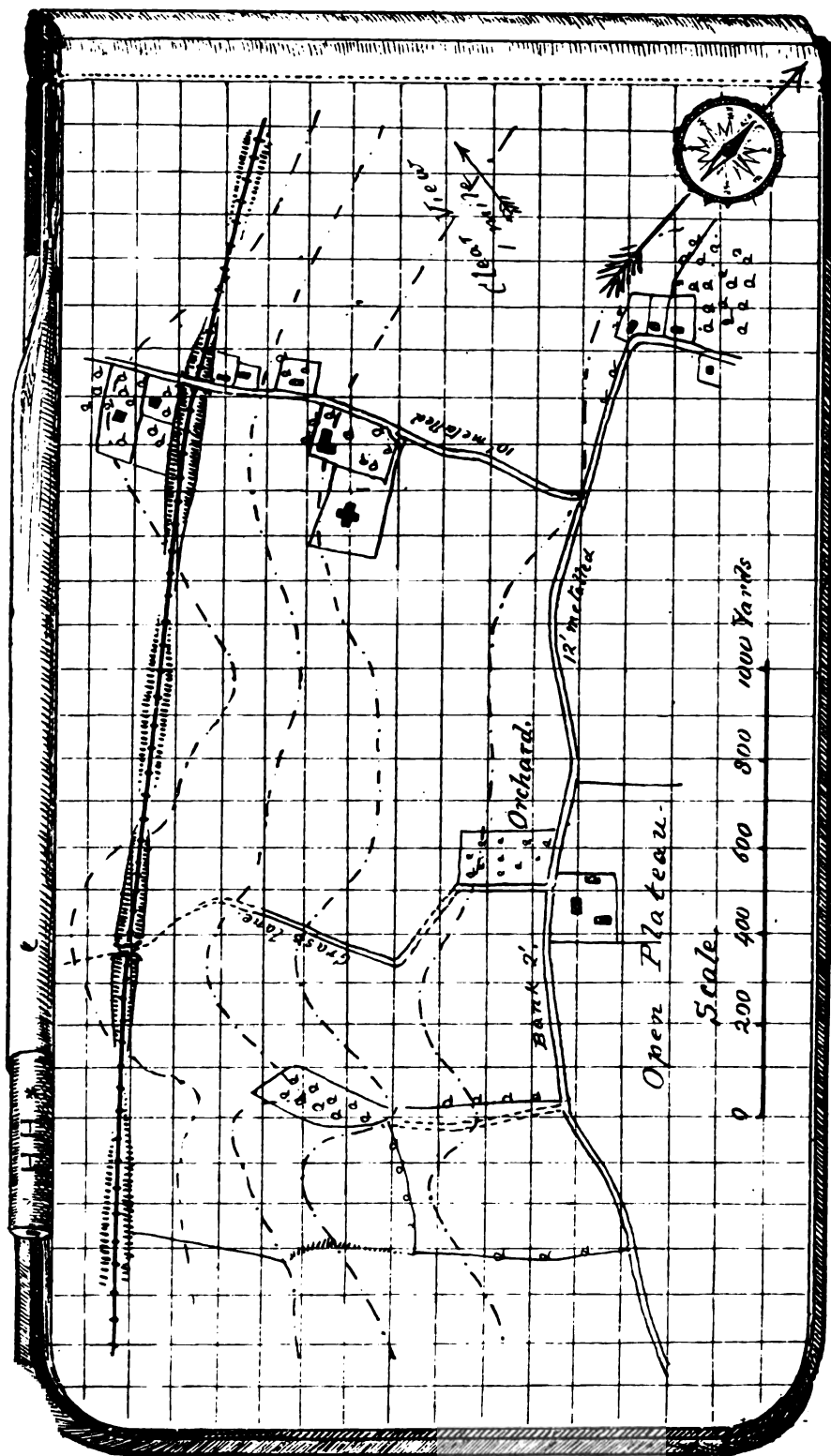


FIG. 4.

addition is necessary, and that is a miniature compass such as can be bought for a shilling or so anywhere. Such compasses usually have a projecting flange or ring round them, and if a hole be cut in the sketching-block, one can be inserted from below by slipping it in between the board and the paper.

All that is now required to convert the book into a small plane-table, or sketching-case, is to mark where the needle points, and draw a line on the paper so as to record the "working meridian," and then set about the sketch in the ordinary manner as described, with the aid of a magnetic compass. The book is "set," whenever necessary, by turning it until the needle points to the meridian-line drawn on the paper, as shown in Fig. 4. Any small compass without a flange can be adapted for this purpose by cutting off the handle and soldering on a flat disc of metal to the bottom, to act as a flange and keep it from falling out. The compass can of course be transferred from one book to another, as soon as any one is expended. If men had pocket-books of this description, the process of rough sketching in them, based as it is on the true principles of field-sketching, with plane-table or magnetic compass, would be found to be vastly simplified, and within the reach of all who cared to take the trouble.

Some of the lighter forms of waterproof Willesden paper, as used at Chatham, are excellently adapted for note-book purposes, and during the last few years I have sketched on such paper, occasionally during wet weather, with very satisfactory results. Note-books made of this paper will be found very serviceable.



Naval Warfare:

ITS PRINCIPLES AND PRACTICE HISTORICALLY TREATED.

By REAR-ADMIRAL P. H. COLOMB.

CHAPTER XVI.

THE CONDITIONS UNDER WHICH ATTACKS ON TERRITORY FROM THE SEA SUCCEED OR FAIL—*continued.*

Commerce suffers when territorial attacks are in progress.—The policy carried out in the West Indies, 1742.—The quarrels of joint commanders a fruitful cause of failure.—Knowles fails in his attacks on La Guaira and Porto Cavallo, 1743.—Successful attack on Louisbourg, 1745.—The causes of success usual.—Second successful attack in the same form on Louisbourg, 1758.—Peyton loses the command of the sea in the East Indies, Madras falls in consequence, 1746.—Attempted revival of cross-raiding at Cape Breton and L'Orient; failure of both attempts, 1746.—The first capture of Minorca, 1756.—The siege and reliefs of Gibraltar, and fall of Minorca, 1780–81 and 1782.—Reflections.



IN considering the nature of the transactions in the West Indies which I described in the last chapter, it is proper to notice that while the navy was occupied in making territorial attacks, commerce was suffering heavily. The result of the proceedings of 1741 was only, after all, to raise complaints in all the commercial centres of the kingdom. Petitions against the system of leaving commerce exposed poured in upon Parliament, and London, Bristol, Exeter, Glasgow, Liverpool, Lancaster, Bideford, Southampton, and other places remonstrated with the Commons on the small regard which had been paid to the defence of that on which the greatness and prosperity of the country in a great degree rested.*

But the policy of carrying out attacks upon territory was continued in the West Indies, and Wentworth's forces being augmented in January 1742 by the arrival at Jamaica of 2,000 newly-raised Marines, a project was considered of landing an army at Porto

* Entick, p. 767.

Bello, and marching across the isthmus to the capture and destruction of Panama. The cross-counsels between the Admiral and the General remained in full force and delayed the departure of the fleet and troops. A tedious voyage supervened; the passage, which should have occupied but eight days, covered three weeks, so that the ships did not anchor in Porto Bello harbour until March 28th. The preliminary landings to occupy the Custom House and other parts of the town were effected without difficulty, the magistrates of the place making no objection when assured of protection. But on the 31st the Admiral received a memorandum from the land officers, declining to persevere in the enterprise and recommending its immediate abandonment. There was, therefore, no choice left, and the whole expedition returned to Jamaica, arriving there in the middle of May.

By the 23rd of September Vernon had his wish in the arrival of letters recalling him and General Wentworth, but not before he had given some of his mind to the latter in an assurance "that to his inexperience, injudiciousness, and unsteady temper was principally owing His Majesty's affairs having prospered so ill in those parts."*

It is clear that the failures I have narrated contain lessons for all time, in the conduct of joint naval and military expeditions such as those described. The Home Government read the lesson in one way, by giving Ogle, Vernon's successor, the absolute command of the Marines, and transferring them to the service of the fleet. But without going so far as to say that the Admiral should be given the supreme command, with power to over-ride the decisions of the land officers, it is plain that in this case Wentworth ought never to have been left in command for a moment after such incompatibilities of temper between the Admiral and the General had been shown as to render it probable that cordiality could not exist in carrying out the service. This remains plain, because there was never the least sign of failure on the part of the navy, which had done everything that was possible, both before and after the arrival of General Wentworth, and because in joint attacks the army must be considered an instrument in the Admiral's hands. Not indeed so as to give the Admiral a power of interference for which his education does not fit him, but as a something which cannot use the fleet, but can be used by the fleet. To put the matter gravely but firmly, it seems plain that had Vernon possessed the power of suspending Wentworth, the mistakes and shortcomings indicated

* Entick, p. 773.

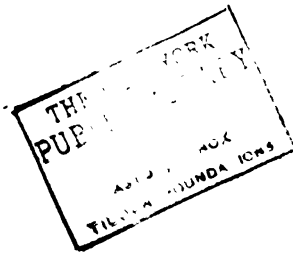
would never have occurred. On the other hand, it seems obvious that had Wentworth possessed the power of superseding Vernon, there was no probability that matters would have been bettered. There is but little chance that any such powers would be conferred on either officer in great undertakings; but it behoves Government, without further inquiry, to remove a General in a joint expedition the moment it is seen that he cannot cordially support the Admiral.*

In the absence of naval force, the Spaniards, from Fort St. Augustine in Florida, projected and carried out in June 1742 an invasion of the newly-settled colony of Georgia. Thirty-six transports conveyed 4,000 troops, which were landed at St. Simons and marched upon Frederica; but General Oglethorpe, the governor, made so good a show of defence that the Spaniards hastily returned to their ships and re-embarked.

In February 1743, Captain Knowles, at Jamaica, was placed in command of 5 sail of the line, 1 frigate, and 3 sloops, with orders to proceed to Antigua, there to pick up 1 40-gun and 1 20-gun ship, and to make an attempt to reduce La Guaira and Porto Cavallo (Puerto Cabello) on the Caraccas coast of South America. Captain Knowles had not been present at the capture of Porto Bello, but he had arrived there shortly afterwards, and had been specially employed in engineering the destruction of the forts. Afterwards he had been in a sense Vernon's right-hand man in planning the attacks upon Chagres and Cartagena; he was also well acquainted with the coast. The selection was not, therefore, a random one, and what afterwards happened cannot properly be set down to the selection of the commander. The only troops he was furnished with, beside his Marines, were 400 men of Dalzell's regiment.

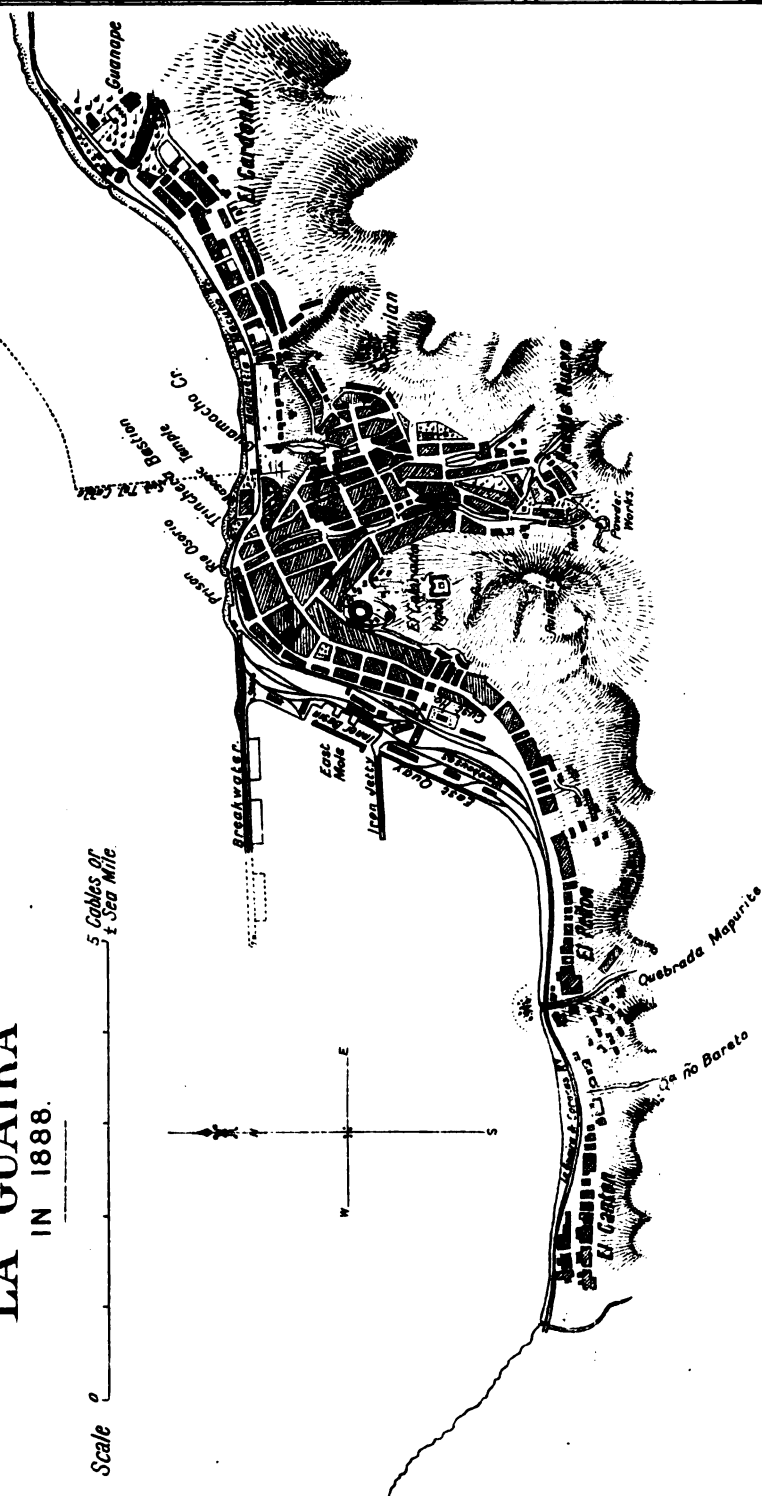
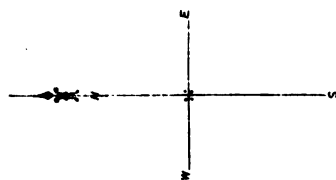
He arrived within sight of La Guaira on February 18th. There was a considerable swell, which prevented any landing of men, and the ships could not be brought nearer than within a mile of the town. The attack, therefore, was no more than a distant bombardment, a form which had succeeded, indeed, at Chagres, but which, in tracing the history of attacks on territory to this point, we have seen no reason to put much faith in. It was said also that the Governor of the Caraccas had been in some way warned of the intended attacks, and had made considerable preparations for resistance. The attack began at noon and continued till night.

* These observations have no reference to those great undertakings like the invasions of the Crimea and Egypt, where any landings or attacks on ports are a means to an end and not an end in themselves.



SKETCH PLAN OF LA GUAIRA IN 1888.

Scale 0 5 Cables of Sea Mile



The British had succeeded in blowing up one of the enemy's magazines certainly, but four of Knowles' line-of-battle ships were so disabled that they had to be sent to Curaçoa to repair; the *Suffolk* received 140 shot, and 92 men and officers were killed and 308 wounded.*

As I have just observed, the causes of this repulse and loss were on the surface. Sir Chaloner Ogle and Captain Knowles ought never to have had any hopes of success in a form of attack which was supported simply by what had happened at Chagres as a very exceptional case.

Warned by his failure, Knowles proceeded differently in his attack on Porto Cavallo. The place was known to be in a good state of defence, and garrisoned by some 5,500 men of various classes. Knowles procured the reinforcement of some Dutch volunteers, and proposed to make up a landing party in the usual way, covered by the fire of a detachment of his ships. He arrived near the place on April 15th, and anchored in or near Borburata Harbour, then called "The Keys of Barbarat." Commodore Knowles, in reconnoitring the defences, observed that the entrance to the harbour was blocked by a ship moored there, from which chains extended to either shore. New fascine batteries were erected in suitable places, and the centre of the defence was the Castle of St. Philip, afterwards called Fort Libertador. On Point Brava were two new fascine batteries, one mounting 12 guns and the other 7, and Knowles determined to make these his objective, in hopes that they might be taken in flank, and their guns turned against the castle. Accordingly a landing party of 1,200 men was prepared, and two ships were sent in to engage and, if possible, to silence the two batteries. When night fell, the batteries were pretty well silenced, and the men were landed on the beach to the eastward, and marched along the shore towards Point Brava, the Commodore in his boat proceeding side by side with them. They took one of the batteries completely by surprise, but the alarm being given and some guns fired by the Spaniards, the mixed party which was landed immediately fell into confusion and panic, fired into each other's ranks, and fled along the beach to the boats in hopeless disorder. This unexpected failure determined the Commodore to fall back on a general bombardment. It was carried out from about 11 in the forenoon of April 24th till dark, when the ships, having expended nearly all their ammunition and received considerable damage, returned to their anchorage at Borburata

* Entick, p. 786.

Harbour. On the 28th it was concluded that no farther attempts on the place were likely to succeed, the squadron was broken up and the ships dispersed to their several stations.

The causes of the failure at Porto Cavallo are not more difficult to seek than those which governed the repulse from La Guaira. The original attack was in the form which experience had shown to be best calculated for success, and had the party of 1,200 men landed been a homogeneous body of disciplined troops, there might have been every hope of a good result. But composed as it was of seamen, soldiers, and Dutchmen, acting together for the first time, it was not surprising that it should have fallen into confusion and panic in contact with an enemy in the dark. There was, as we have seen, no real reason to expect success from the general bombardment that afterwards followed.

As illustrating the strategical law that nothing but naval force will prevent attacks upon territory, for the reasons set out with so much force and clearness by Sir Walter Raleigh, we have it noted* that the withdrawal of the usual station ships from the British Leeward Islands for these attacks on the Spanish Main, encouraged the Spanish privateers to push beyond their usual function of capturing merchant ships, and to land plundering parties on the Island of St. Christopher's.

War having been declared against France in 1744, and there being no naval force to prevent it, the French garrison of Cape Breton made a successful raid on Nova Scotia, and captured Canso. But the arrival of a single British 40-gun ship seems to have put a termination to any farther designs of this kind by the French.

In the West Indies both sides remained on the defensive so far as territorial attacks went, the British awaiting reinforcement before anything could be undertaken.

By the year 1745 plans had been arranged between the American Colonies and the Home Government for retaliation on Cape Breton. The former furnished the troops to the number of 3,850 volunteers, with 85 transports, 8 20-gun privateers, and 10 smaller vessels; these assembled at Boston and proceeded to Canso, in Nova Scotia, to await the covering squadron of 4 line-of-battle and other ships under Commodore Warren.

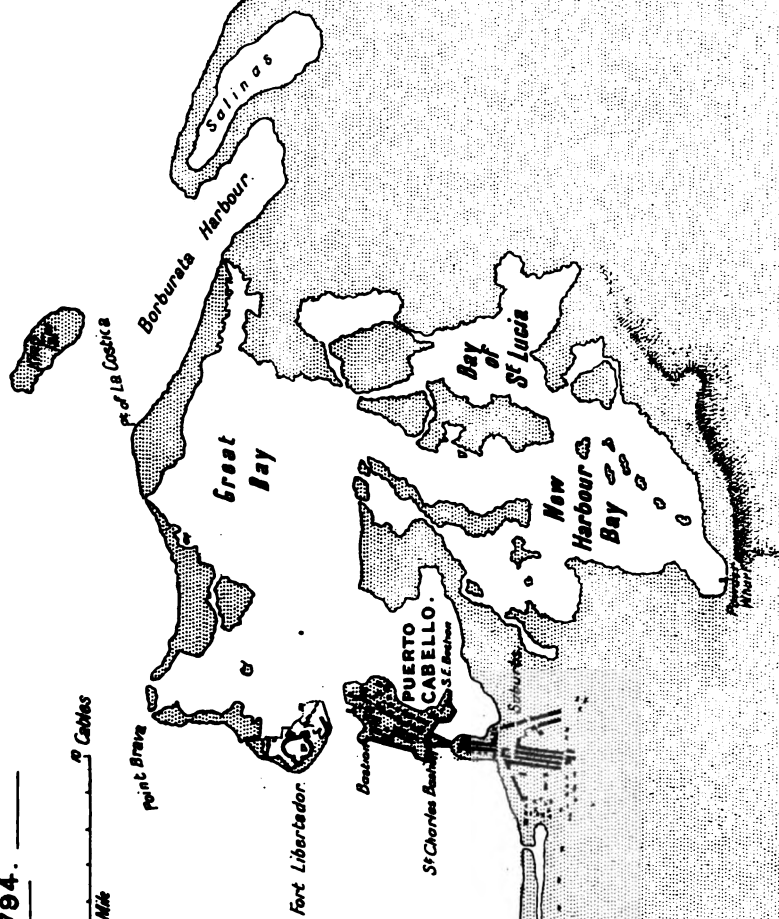
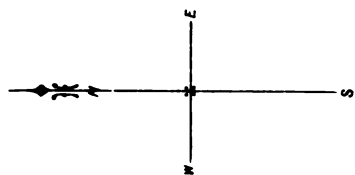
On the 28th April the whole force arrived in Gabarus Bay, to the south-westward and within four miles of the fortifications of Louisbourg. The troops were immediately landed, being covered from the attack of a detachment sent to resist the landing by the

* Entick, p. 787, note.

SKETCH PLAN OF PUERTO CABELLO

— IN 1794. —

Scale 0 5 10 Cables
One Sea Mile



fire of some of the lighter vessels. The troops now marched directly on Louisbourg, while Warren blocked the entrance to the harbour and cut off all chance of reinforcement and supply, capturing on this service many store-ships and one French line-of-battle ship, which was loaded with military stores.* Warren had been joined by three more sail of the line, and was thus an absolute master of the sea. The land forces making successful progress with full supplies coming to them from Gabarus Bay, Warren determined to push in upon the harbour, and for that purpose made arrangements for a sudden storming of the Island battery. The boats were caught in a dense fog on the first attempt, and were obliged to desist after alarming a garrison said to consist of only fourteen men. Before a second attack could be made, the French had so largely reinforced the Island battery that when the operation was attempted the British were beaten off with severe loss. A single night's work, however, sufficed to erect a battery near the

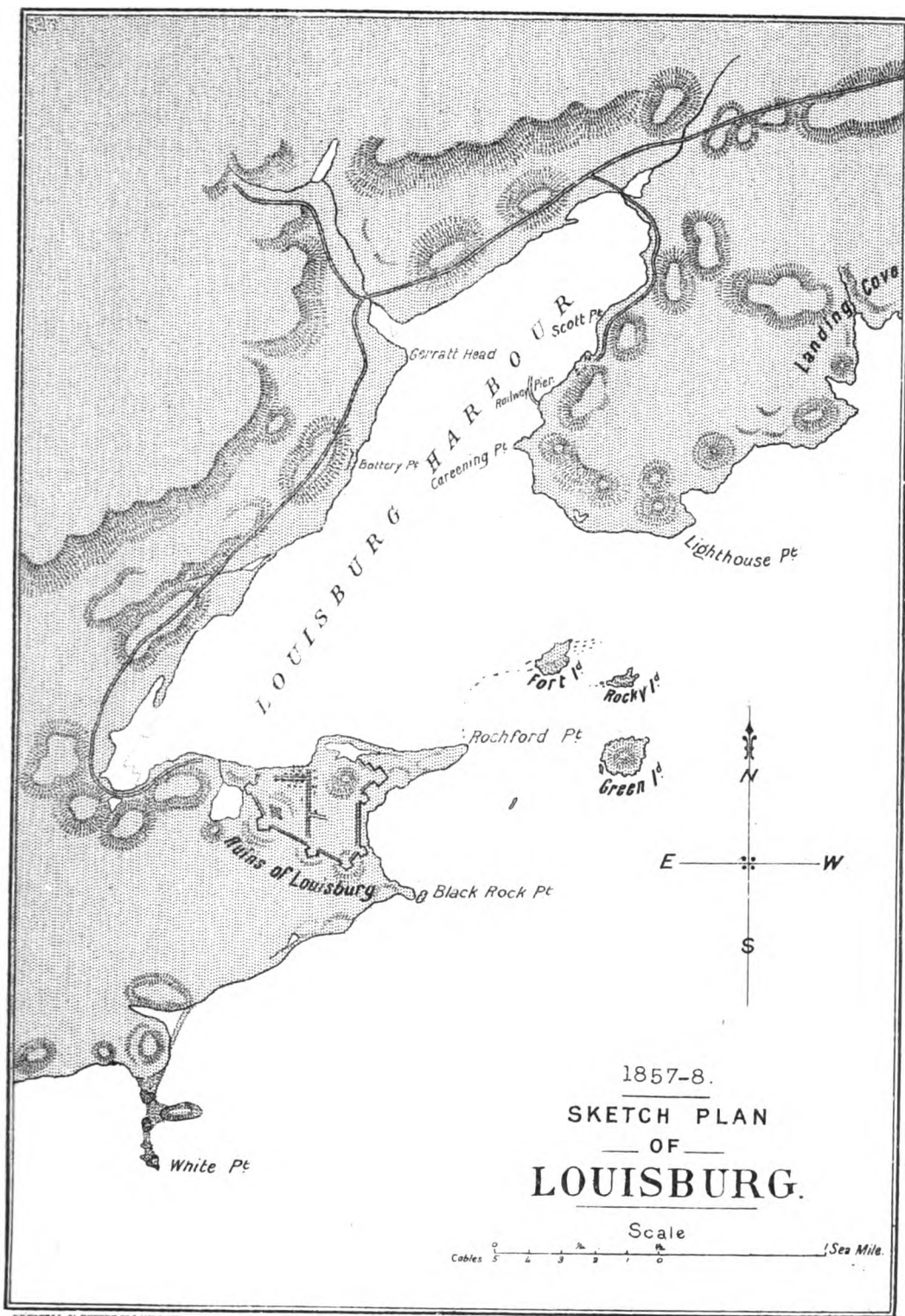
* Entick gives the following description of Louisbourg at the time:—"The port of Louisbourg, or English harbour, is but a league distant by sea from the Bay of Gabarus, and one of the best in all America; being about four leagues in circumference, and having in every part of it seven fathoms water. The anchorage is good, and ships may run ashore on the sands without danger. The entrance is not above 400 yards broad, between two small isles, and is known twelve leagues off at sea by the Cape of Larembec (? Loran Head), which lies a little to the N.E. In the N.E. part of the harbour was a fine careening wharf for men-of-war to heave down, and very safe from all winds. On the opposite shore were the fishing stages, with room for 2,000 boats, to make their fish; and on the starboard side of the harbour, going in, was a lighthouse, on a high rocky point, which might be distinguished on a clear night five leagues off at sea. The city was built on a point towards the sea, on the south side of the harbour, and was improved with fortifications that cost upwards of two millions of livres in building. The streets are regular and broad, principally composed of stone houses, with a spacious citadel on the western part of the town, near the ramparts, erected for the security of the land side. . . . The greatest extent of the city is from the citadel to the eastern gate, called the Duke de Penthièvre, which is more than half a mile; and to walk round all the ramparts, mounted with heavy cannon, was at least two miles and a quarter. The road from the town to the country is by the western gate, over a drawbridge, where was a circular battery of 16 guns, 24-prs., seated on and commanding the upper part of the harbour. Between this and the eastern gate was the Iron battery, mounting 30 guns. Opposite to this was the Grand battery of 35 42-prs., which commanded both the entry and all the bay; and at the mouth of the harbour was the Island battery, of 34 42-prs. The walls, ramparts, and bastions of the city, had 148 embrasures, though only 64 cannon were mounted; but there were 10 mortars of 13-in. bore, and 6 of 9-in.; and the garrison consisted of 1,200 regular soldiers, under the command of M. Chambon. But the fortifications on the land side were not entirely finished at the time of the siege, there being no out-works, glacis, or covered way. Besides, though the bastions and curtains were of masonry to the summit, which was 36 feet above the field, yet these, and the quoins and embrasures were cemented with such indifferent mortar that they were unable to resist the fury of a strong and continual battery." P. 808, note.

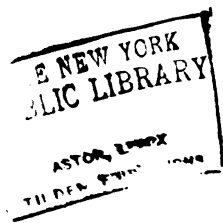
lighthouse, which commanded both the Island battery and the entrance to the harbour, and was of the greatest service to the besiegers.

Meantime, the failing ammunition and stores of the British were replenished from over sea to Gabarus Bay, and news of further reinforcements to arrive immediately was received, side by side with intelligence that the French squadron at Brest intended for the relief of the place was masked by a sufficient British naval force. On the other hand, the command of the sea by their enemy was bringing distress to the besieged. Deserters told the English commanders of great shortness of food and ammunition, while four ships carrying relief were captured by Commodore Warren's ships. His naval force was again reinforced, so that by June 11th he was at the head of 4 60-gun, 1 50-gun, and 5 40-gun ships, beside a crowd of smaller vessels. The fire was constant from all the British batteries, and by the 14th preparations for a general assault were nearly completed, when on the 15th the governor offered to capitulate, and terms being arranged, the French flag was struck on the 17th, and the British entered into possession.

The siege had lasted 47 days, during which time 9,000 shot and 600 shell had been fired into the place, causing a loss to the garrison of 240 killed, while the loss to the besiegers was only 100. The capture of the place is one of the best examples of successful co-operation between land and sea forces, each confining itself to its normal sphere of action. Its plan was, indeed, of the essence of all the teaching of naval war, and is in some sort paralleled by the more modern instance of Sevastopol, with the substantial difference that the Crimean port received supplies overland which were denied to Louisbourg. It will be observed that Vernon's plan of attack on St. Jago de Cuba was identical with that adopted against Louisbourg, where an undefended port was seized as a base for the land forces to act from, and the fleet operated doubly, as keeping communication open to that base, and closing the sea communications of the place to be attacked. To a certain extent we are also reminded of the operations of the Federals against the Confederate port of Charleston, and of the admitted mistake which was there made of bringing the fleet itself into contact with batteries and works, instead of reaching them through land forces supplied from the sea.

The clear necessity that there should be command of the sea on the side of the attacking party is well demonstrated by the opera-





tions against Louisbourg. Had the squadrons destined to relieve the place not been masked by a British force off Brest, the mere fear of its approach would have paralyzed Commodore Warren's arrangements, and the care that was taken to reinforce him showed a consciousness of the fact on the part of the British Government. It is evident that had a superior French naval force arrived Warren must either have abandoned the troops landed altogether, or else he would himself have been shut up with them in Gabarus Bay, to be besieged in turn by the garrison of Louisbourg.

This place was given back to the French at the peace of Aix-la-Chapelle, but in 1758 it was again attacked by the British under Admiral Boscawen for the sea, and Generals Amherst and Wolfe for the land forces. The method pursued was identical with that of thirteen years before. The assemblage and landing was in Gabarus Bay, and Boscawen acted as Warren had done. The only differences were that the landing was opposed by troops covered by some works, and that there being line-of-battle and other ships in the harbour, the French took some of them to block the entrance, and Boscawen carried two others in a boat attack.

The landing began on June 2nd, 1758, and the place surrendered on July 17th, the siege having thus lasted within two days of the term occupied in the former siege. As in 1745, the garrison of 1758 had hoped vainly for relief from the sea, which was, as before, stopped by the British on the coast of France. But things had gone farther this year than in 1745. Boscawen sailed from England with his expedition on the 19th of February. On the 11th of March Hawke sailed with 7 sail of the line and 3 frigates, with the direct purpose of destroying in Aix Roads the very reliefs which M. de Drucourt, the Governor of Louisbourg, had hoped might reach him. He drove the 5 sail of the line there on shore and forced them to throw overboard their guns and stores in order to escape him.*

It had been intended to attack Louisbourg the year before, but the presence of 18 French sail of the line in those waters effectually barred all attempts of the kind. So it may be said that the fall of Louisbourg was brought about by Hawke in 1758, as it had been by Martin in 1745, neither officer quitting Europe, but operating to maintain the British command of the sea at Cape Breton.†

* Schomberg, vol. i., p. 313. Lapeyrouse, vol. ii., p. 437. Troude, vol. i., p. 369.

† In May, however, Count Duchaffault got away from Aix Roads, with 5 sail of the line, bound for Louisbourg *via* Martinique. He heard of the fall of the place there Boscawen's force was 23 sail of the line, 11 frigates, and 7 smaller vessels. The troops

The following information was obtained from the records of the [redacted] Department, [redacted] Office, [redacted] City, [redacted] State, [redacted] Country, [redacted] Continent, [redacted] Hemisphere, [redacted] Planet, [redacted] Galaxy, [redacted] Universe.

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as yet maintained any squadron in those waters, but in order to counterbalance the British force of four sail of the line and two smaller ships under Commodore Barnet, which had been sent thither, the French Government commissioned Commander de la Bourdonnais, Governor of Mauritius and Bourbon, to make up a squadron out of the ships belonging to the French East India Company, and to operate against the English. In May 1746 La Bourdonnais was on the coast of Coromandel with 1 72-gun ship and 8 frigates of from 30 to 38 guns. Barnet had in the meantime died, and the British command descended to Captain Peyton. There was an engagement of a partial character between the two forces on June 25th, but the result was to make the British abandon all idea of further encounters, and to send the squadron to the northward, leaving Madras entirely open to attack.

La Bourdonnais arrived before the place with a considerable body of troops. These were landed south of the town, and proceeded to invest it on the land side, while the French squadron prevented any relief arriving by sea. Madras was in no condition to offer defence to such an attack, and it capitulated in a few days.

The tactics of this attack were what we have seen usually precedent to success; the only note proper to make is that La Bourdonnais had become confident of his command of the sea from his experience of the British commander. We may fairly infer that Peyton was no strategist of the Torrington school, and was not aware that La Bourdonnais could have done nothing, if the British, doubtful of their superiority in action, had kept in a position of observation, and not attacked at all. Peyton having attacked, and having shown clearly by his conduct that he felt himself unable to make a second attempt, La Bourdonnais was justified in assuming that he had the command of the sea.* Besides this, it must be remembered that Peyton had run away to leeward, and by so much deprived himself of any chance of interfering. And again, Madras being an open roadstead, the ships not being specially concerned in the actual attack, were still in a position to meet a hostile fleet without necessarily compelling the land forces to abandon the enterprise. Moreover, it is to be sup-

* Entick, p. 809, makes out that La Bourdonnais, before attacking Madras, had put Peyton to the test by firing on one of the Company's ships in the roads on August 18th, and then passing south to observe whether Peyton would return to defend the place. Also that he heard how Peyton, on receipt of this news, had disappeared from Pulicat, a little to the northward. It was this, according to Entick, that determined La Bourdonnais to make his attack. De Lapeyrouse (vol. ii., p. 359), however, represents La Bourdonnais as always alarmed as to the possible interference of Peyton.

posed that even in this case the troops were not in special danger, being able to retreat on their base at Pondicherry.

Rear-Admiral Boscawen had left England at the close of 1747 at the head of an expedition intended to reduce the islands of Mauritius and Bourbon, and afterwards to operate for the reduction of Pondicherry. The squadron anchored in Turtle Bay, Mauritius, but the reports were that success was not to be hoped for unless a harbour could be seized, and as the season pressed, Boscawen made sail for India.

The balance of sea power had been reversed by the arrival early in 1747 of Commodore Griffin with 4 sail of the line and a 40-gun ship; and Boscawen found himself in assured command of the sea, when at the head of 9 sail of the line, 2 frigates, and some smaller vessels, the troops were assembled at Fort St. Davids, and marched overland to the attack, while a detachment of the fleet invested the place by sea as usual. The march of 24 miles began on August 8th, and the siege went on till the 6th October, when failure in the attack was admitted, and the troops marched back to Fort St. Davids.

This was the last operation in the East Indies during this war, and there is nothing to be noted about it but the general fact that though command of the sea is required before such an attack can be contemplated, success does not follow its attainment in unbroken sequence. But in the East Indies, as in the West, we see the same general law prevail. Command of the sea must be fought for if it is not admitted, and territorial attacks must cease while this process goes on. They cannot be undertaken at all while the command is in abeyance; but after it is settled, the side that holds it inevitably pushes on to the attack of territory, when success is measured by the power and skilfulness of the attack; the land forces undertaking the active work, while the sea forces support, cover, and supply them.

Coming now to the proceedings at home, so far as they relate to the subject of this chapter, we have to note the beginnings of that deeper naval policy which proposes to guard our distant possessions and to strengthen our distant fleets, not directly and on the spot, but indirectly, and at home. The sources of all naval power are to be found in each nation in not more than two or three commodious sea-ports, which a variety of circumstances have set apart for the purposes of war. In England there were the Thames and Medway, Portsmouth and Plymouth; while France had Brest, Toulon, Rochefort and Aix Roads, and Toulon. Spain had

Ferrol, Cadiz, and Cartagena. Everything that could command the sea came originally out of these ports, and simultaneously with the growing ability to watch them from the outside grew the conception that command of the sea off the coast of America and in the West and East Indies could be preserved by that process. Reinforcements and supplies prepared at Brest might be intercepted in European waters by the superior naval power, and the distant British squadrons, though not directly strengthened, would be indirectly kept powerful by the enforced weakness of the enemy.

So we have seen the French force, destined in 1745 to relieve Louisbourg, unable to sail from Brest, Vice-Admiral Martin with a more powerful squadron masking it. In 1747, again, reinforcements and supplies were prepared at Brest to wrest the command of the sea once more from the British in North American and East Indian waters. The British Government sent Anson with 14 sail of the line to intercept them. He met the whole force, amounting, with the transports and store-ships, to 38 sail, on May 3rd, N.W. of Cape Finisterre, and captured all of the men-of-war and many of the other ships. Later in the year, 8 sail of the line, with a convoy, were preparing in Aix Roads for the West Indies. Hawke, with 14 sail of the line, left England in August to intercept them, and he also was successful in meeting them off Cape Finisterre. The French had put to sea on the 6th October; on the 14th they fell into Hawke's clutches, who carried 6 of the 8 line-of-battle ships to Spithead with him.

Notwithstanding the proofs of the general impracticability of cross-raiding when the sea was other than strategically indifferent, which lay behind them in history, the French in 1745, amongst other plans for raising insurrection in favour of the Pretender, formed one of a secret and sudden invasion. The idea was to throw 10,000 troops on shore near Plymouth during a single night, and without any attempt at covering naval force. "But, after much pains had been taken and vast preparations made, it was discovered that it was impossible to transport such a body of troops into England whilst the English remained masters of the Channel." *

In 1746, the French had their opportunity, and got out a great expedition for the recapture of Cape Breton, taking advantage of the momentary concentration of British thought on a design for the capture of Quebec. A squadron of 10 sail of

* Hervey, vol. iv., p. 293.

the line, with frigates and smaller vessels, and 78 transports carrying 3,500 troops, left Rochelle on the 22nd June, under command of the Duc d'Enville, bound for a rendezvous in the Bay of Chibouctou (Chedabucto), in the N.E. of Nova Scotia. There was no attempt to intercept this expedition in its complete state, though a blockade of St. Malo, where the transports were prepared, delayed their arrival at Brest from the date fixed, 1st March, to the 15th April. In consequence of this delay, the squadron, which ought to have been assembled in Aix Roads early in April, did not arrive there till 17th May, and did not sail till 20th June, anchoring for a day at Rochelle before finally quitting France.

It was only indirectly to British effort that the failure of this expedition was due. All went well with it till it sighted the coast of Nova Scotia. Then it was overtaken on 13th September by a southerly gale, accompanied by thick fog. By the 27th September only 7 sail of the line, 2 frigates, a fire-ship, a bomb-vessel, and 30 transports had succeeded in gaining the rendezvous. Then general sickness broke out in the ships; the Duke died of apoplexy, and his successor, d'Estourmelles, in a fit of delirium, destroyed himself, and in the end what was left of the expedition returned in a miserable and exhausted state to Brest.*

Meanwhile, in England, the expedition which had been prepared against Quebec was turned against Lorient. It sailed from Plymouth on 14th September, and consisted of 16 sail of the line, with 8 frigates, bomb-ketches, store-ships, and 30 transports carrying 6 battalions of land troops, with "matrosses and bombardiers," in all 5,800 men. The sea commander was Admiral Lestock, who had been tried and acquitted by court-martial four months earlier for misconduct in Mathews's action; the general was Sinclair.

The troops were landed in Quimperle Bay, a few miles from Lorient, on 20th September, and marched next day upon the place. It immediately offered to surrender on terms, but these were rejected, and a very ineffective and ill-arranged siege began. Lestock had intended to bring some of his ships up to take part in the operations, but subsequently changed his mind. Then followed a long story, comprising councils of war, references to the opinion of the engineers, shortness of ammunition, fatigues, sickness, and indiscriminate blame-throwing, after which Sinclair determined that the capture of the place was impracticable, and the troops were re-embarked without interruption, after being a week on shore.

* Entick, p. 812; Schomberg, vol. i., p. 231; Troude, vol. i., p. 309; Lapeyrouse vol. ii., p. 297.

Yet they left behind them several guns and mortars and much ammunition and stores.*

It is not at all difficult to draw the lesson from these varied events of 1746. Most probably they were drawn by the Government, and the intercepting attacks of Anson and Hawke next year were the consequences. I have said that the British only contributed indirectly to the French failure on the other side of the Atlantic. But they did contribute, by the six weeks' delay which the watch upon St. Malo enforced. It is clear that an expedition which had to be collected at St. Malo, Brest, Aix Roads, and Rochelle, before it was in a state to sail finally, was entirely at the mercy of a superior and alert naval force. There was ample opportunity for falling on it as it collected, as well as when it finally put to sea. Probably the fact that superior force was hovering near might have stopped the sailing altogether, as it had done before. But the English Government was losing sight of the principles of war. It could not properly have thought of the capture of Quebec, if France was at the same time in a position to think of recapturing Louisbourg. If it contemplated an attack on Lorient, it should not have waited, as possibly it did, for the absence of the Brest fleet on the other side of the Atlantic. The sack of Lorient on one side and the loss of Cape Breton on the other was like an exchange of bishops in a game of chess. Bad play, unless there was an object behind it. If England was not strong enough to mask d'Enville's force in Brest, and to cover an attack on Lorient at the same time, she should not have contemplated the latter. France on her side had no prudence in offering Lorient to sack for the sake of recovering Cape Breton. My historians say that the detention of the Quebec expedition, which became the Lorient expedition, was not explained.† Probably the Government became aware of its original strategical error when too late, and made the attack on Lorient as a sort of reprisal for the loss of Cape Breton, which it thereby discounted. The special temptation, beside the sacking of a place which was the entrepôt of East Indian wealth, was the notion of raising the French Protestants of Rochelle to rebellion, an idea which alone gave it any legitimacy as an operation of war under the conditions.

Having now reached the peace of Aix-la-Chapelle, and having traced closely through so many chapters, and with so few omissions, the history of naval warfare so far as it concerns attacks upon

* Entick, p. 812; Lapeyrouse, vol. ii., p. 308.

† Entick, p. 811; Hervey, vol. iv., p. 302.

territory carried out from the sea, I do not think it will be necessary to pursue that plan further. It was expedient to continue it for some time, in order to show that the exceptions to rule were few and far between. Rule being now in a sense established, I shall content myself with sketching rapidly some of the more prominent and remarkable illustrations of those parts of it which we have seen in operation, so long as the wind was the motive power of ships, and then proceed shortly to examine what history tells us as to the continuance or otherwise of those rules when steam has become the propulsive power, and brought in its train various other new elements.

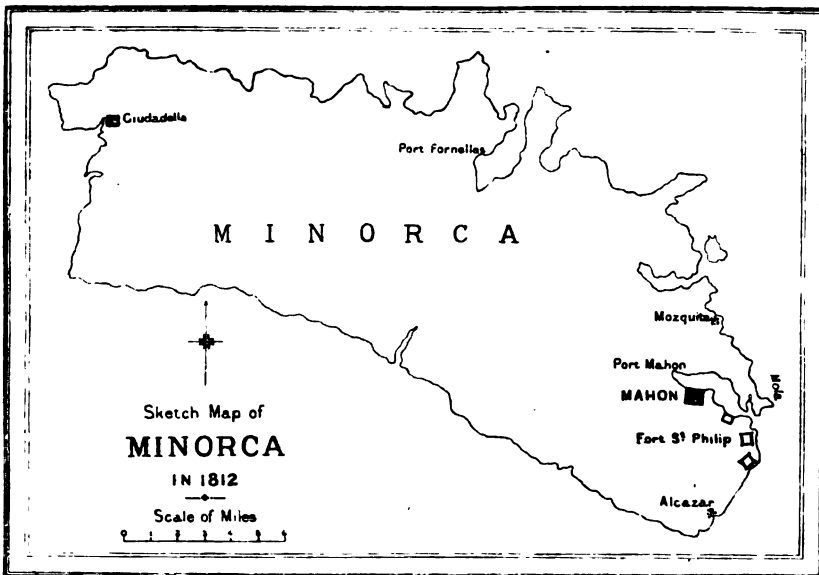
We come first to the French attack on and ultimate capture of Minorca, an enterprise set on foot by the French before the declaration of war in 1756. In the spring of the year there were 12 sail of the line ready at Toulon, and two or three English at Port Mahon or Gibraltar under Commodore Edgecumbe. By the 10th of April the Marquis de la Gallissonnière, at the head of 12 sail of the line, 6 frigates, and 150 transports, was anchored in Hyères Roads, and nearly ready to put to sea. In the transports 15,000 troops were embarked under the command of the Duc de Richelieu. In two days the expedition put to sea, and on the 18th the ships anchored before Ciudadela in the Island of Minorca.

The English Government had been much more alive to the preparations for invasion understood to be in progress by France as a suitable means of declaring war, than they were to the nearer danger. They had plenty of advices through and from Germany, warning them of what was intended, but it was not till the 6th of April that Admiral Byng left St. Helen's with 10 sail of the line under orders to relieve Minorca if he should find it attacked. Even then the number and the bad condition of the ships showed that Government had no knowledge of the real strength of the French expedition. They got news of its sailing and of its force at the same time, under date April 18th, from Captain Hervey of the *Phoenix* at Villa Franca. Captain Hervey informed the Government that General Blakeney, in command at Minorca, had collected about 5,000 troops and labourers inside Fort St. Philip, and was preparing for full resistance, which Captain Hervey thought he would be able to prolong until the arrival of Byng's relieving force.

Later accounts, of the 21st April, direct from Minorca, soon reached the Government. The French had landed on the island and had at once possessed themselves of Ciudadela, from

which the English garrison retired. The main body of the army was preparing to invest Fort St. Philip, while detachments were to advance on the town of Mahon, and the fleet was to block up the port by sea.

Richelieu met with no difficulties. The whole enterprise had been arranged and was being carried out on the Louisbourg pattern, and, saving relief from the sea, was as certain of success. Mahon was occupied without a shot having been fired. Fort St. Charles, on the north side of the harbour was attacked from seaward by boats and small vessels specially brought from Toulon. But Fort St. Philip was held to rival Gibraltar in strength, its garrison of



regular troops was said to be from 2,500 to 3,000 men, and there was a general belief in England that it would hold out till Byng arrived, and that all would then be well. No doubt the French were running risks. If Fort St. Philip could hold out till Byng appeared, and if Byng should be even no more than a match for La Gallissonnière, the least they could suffer would be the loss of their whole army. And they had no sufficient reason to believe that their 12 sail of the line could by any possibility be more than a match for the 13 sail of the line which they probably now knew that Byng would bring against them. It was a greater risk than was justified. The proper course would have been to threaten Minorca, and then to

beat the fleet sent to relieve it ; after which Minorca would fall as a matter of course, without any risk of losing an army.

Byng arrived at Gibraltar on May 2nd, heard from Edgecumbe the state of affairs at Minorca, joined to his own 10 sail the Commodore's 3, and sailed from Gibraltar on the 8th of May.

On the 19th of May the French army had been just a month landed on the island, and La Gallissonnière, seeing Byng's fleet, sent on shore to borrow 450 men from the army to strengthen his crews. The next day the battle, which cost Byng his cruel condemnation and death, took place. La Gallissonnière had proved more than a match for Byng, just as La Bourdonnais had proved more than a match for Peyton in another quarter of the world ten years before. Byng sailed away for Gibraltar, leaving Minorca to its fate, just as Peyton had sailed away towards Calcutta, leaving Madras to its fate. And on May 30th General Blakeney capitulated, as there was nothing else that he could do.

The lesson, and the rule of war, here lie on the surface again. The fate of a garrison open to attack from a commanded sea is certain if the attack be made properly and with adequate force. It may be postponed by the employment of that citadel form of fortification of which I have spoken in former chapters, and the more impregnable the citadel, the longer will be the delay before the place falls. But if the attacking force is sufficient and properly used, the citadel will be fully invested, and the fact that it is approachable by water on one side does not affect its position. Commodore Edgecumbe had 3 sail of the line under his command ; if he had had 12, the idea of an attack on Minorca could not have been entertained at all. But, on the other hand, the fact that Fort St. Philip was so strong enabled Byng to come in sight of it while the English flag was still flying. Had there been no fortification, Minorca would have succumbed to a much smaller force long before any relief from England could have reached it. But again, it has to be noted that the French might have ravaged and destroyed everything on the island out of range of the guns of St. Philip, and then have sailed away again long before any relief could have appeared.

Minorca, like Louisbourg after its first capture, passed back by the treaty of peace into the hands from which it had been wrested in war. Like Louisbourg it was destined to be a second time attacked by the power in command of the sea, to fall a second time, and never again during the war to come back to the hands which only from want of command of the sea had failed to hold it.

In 1780, 1781, and 1782, the pressure on the resources of the United Kingdom in defending herself against France and Spain in alliance with her revolted colonies, while attempting to recover lost ground and to prevent revolt spreading farther, strained them near to breaking point.*

Her possessions were attacked in the East and West Indies, and in the Mediterranean simultaneously. The Mediterranean Sea at that time was of least importance to her, and she gave up all idea of maintaining her command there, not by choice, but by necessity. Her two possessions in those waters, Gibraltar and Minorca, were in no way necessary to her defence, unless that defence was transferred to the shores of France and Spain. It may now be a question whether the East and West Indies could not have been better defended in Europe than they could possibly be in those distant waters; and whether prevention would not have been better than cure. But the choice was made the other way, and it left the fortresses of Gibraltar and of St. Philip in Minorca a drag on resources to which they contributed nothing. They were useful only as bases and depôts for operations, either active or passive, carried on against the coasts of France and Spain. If there were no such operations, Gibraltar and Minorca were for the time a trouble and a nuisance only. But they were great posts, strongly fortified and garrisoned; the loss of either of them would not only seriously affect the prestige of the nation, and encourage her

* The following table exhibits with fair accuracy the distribution of our line-of-battle ships in 1778, 1779, 1780, 1781 and 1782. The stations were so continually exchanging their forces, and ships attending convoys passing and repassing so frequently, that no list would be absolutely correct which did not refer to a particular day:—

	Home Waters.	West Indies.	North America.	Mediterranean.	East Indies.	Total.
1778 Summer	48	14	12	1	2	77
„ Winter	43	23	11	2	1	80
1779 Summer	43	30	10	2	8	93
„ Winter	42	30	10	2	8	92
1780 Summer	43	33	17	2	7	102
„ Winter	35	50	14	1	7	107
1781 Summer	39	44	19	1	12	115
„ Winter	38	52	14	1	14	119
1782 Summer	35	59	12	1	22	129
„ Winter	29	49	26	1	22	127

Notwithstanding these evidently gigantic efforts we were almost everywhere met by equal forces of the enemy, and often had to retire before superior force, while we lost besides our American Colonies, the Islands of Grenada, Tobago, St. Christopher's, Monserrat and Minorca, and surrendered Trincomalee.

enemies, but would to some extent render more difficult any transfer of the seat of war to Mediterranean coasts. Of the two places, Minorca was by far the most important. Gibraltar never had been, and never could be, so good a base to operate from as Minorca. Geographically it was too far from the French coast, while Minorca was placed nearly midway between Toulon and Cadiz. The anchorage at Gibraltar was contracted and detestable. Ships' could not water there, and possible wharf space was very confined. It was attackable by land, and might be captured by land forces without the necessity of any covering navy. Minorca, on the other hand, possessed one of the finest harbours in the world. It was impossible to attack it by land forces alone unless the command of the sea were first assured. It was capable of producing much that was wanted for the refreshment and supply of ships' companies, exhausted and worn by watching enemy's ports. But unquestionably the prestige belonged to the least worthy place—Gibraltar. Minorca had passed into and out of our hands, and it and we were used to it. True the loss of it had led to the death of a great commander by the hands of the executioner, but then Gibraltar had never yet been successfully attacked. However narrow the issue had been, naval force had always appeared in time to prevent the final catastrophe. The habit of defending Gibraltar had been formed, that of defending Minorca had not been formed. Probably a great deal more money had been spent on the local defences of Gibraltar than on those of Minorca, and quite possibly instinctive reasoning confused value and cost. Lastly Gibraltar could be relieved by a naval force which need not be absent from the English Channel for more than two months and a half.* A fleet relieving Minorca might expect to be absent quite twenty days longer.† All these things together tended to concentrate attention on Gibraltar as a place that might be saved, and to leave Minorca to the chapter of accidents.

It was with no willingness that any piece of territory was to be parted with, but there was a dire necessity about it which had to be faced. Grenada in the West Indies had already gone. The newly restored port of Savannah, and province of Georgia, had been almost successfully attacked by forces under cover of the

* The relieving fleet of 1780 left Portsmouth on 26th December 1779, and sailed from Gibraltar on February 13th 1780. The second relief sailed on March 13th 1781, and returned on May 21st. The third relief sailed on September 11th 1782, and returned November 15th.

† Byng, sailing from Gibraltar on May 8th, was not off Port Mahon till the 19th.

‡ St. Vincent, leaving Gibraltar on May 12th 1799, reached Minorca on May 20th.

same French fleet which had covered the capture of Grenada, and successfully faced Admiral Byron afterwards. In the East Indies troubles had not yet come, but they were certain. At home a British line-of-battle ship had been captured in sight of Plymouth, and a 40-gun frigate in sight of Scarborough.

Besides all this, towards the close of the year 1779, Gibraltar, invested by land and sea, was guarded from any relief by a Franco-Spanish fleet of 24 sail of the line to operate from Brest, and 35 sail of the line to operate from Cadiz.

With the coolness and the boldness which then generally characterized the action of the navy, Sir George Rodney was despatched from the Channel in the last days of December at the head of 15 sail of the line, escorting an immense convoy of troop-ships, store-ships, and victuallers, with directions to throw reinforcements and supplies into Gibraltar and Minorca, and then to proceed to reinforce the British power in the West Indies with the greater part of his fleet. He had the fortune which favours the brave. Off Cape Finisterre he fell in with a great convoy of the enemy destined for Cadiz, and captured it. An opportune gale of wind had caused the separation of the Cadiz fleet, and left Don Juan de Langara off Cape St. Vincent with only 11 sail of the line. Rodney fell upon them and captured or destroyed all but four of them. The Brest fleet was too sluggish in its operations to thwart the briskness of Rodney, and he took his convoy and his prizes safe into Gibraltar Bay on January 27th. He at once passed his supplies into that fortress, and despatched those for Minorca under convoy of 3 line-of-battle ships.*

So Gibraltar, invested, and in considerable straits, was again free, and relieved of all immediate danger. Minorca was not as yet seriously threatened, and Rodney proceeded for the West Indies in the middle of February.

It is not possible to say what might have now happened to Gibraltar, had the whole naval power of the enemy been launched and sustained against it. But no attempt of this kind was yet made. Other concerns, indeed, employed the naval enemy. In April, Don Josef Solano sailed with 12 line-of-battle ships, several frigates, and 83 transports, carrying 11,460 troops for the support of the allied power in the West Indies. The 31 sail of the line which still remained at Cadiz, contented themselves with making

* Admiral Barcelo, who was blockading Gibraltar with 4 or 5 ships of the line, some frigates and a number of galleys and gun-boats, retired under the guns of Algeciras on Rodney's approach.

cruises to the northward and westward, with the view of destroying British convoys, or possibly of intercepting relieving forces. On 18th July they were joined by 5 more French sail of the line, and on the 9th of August, this great force being at sea, captured, and afterwards carried into Cadiz, no less than 60 ships of British East and West Indiamen.

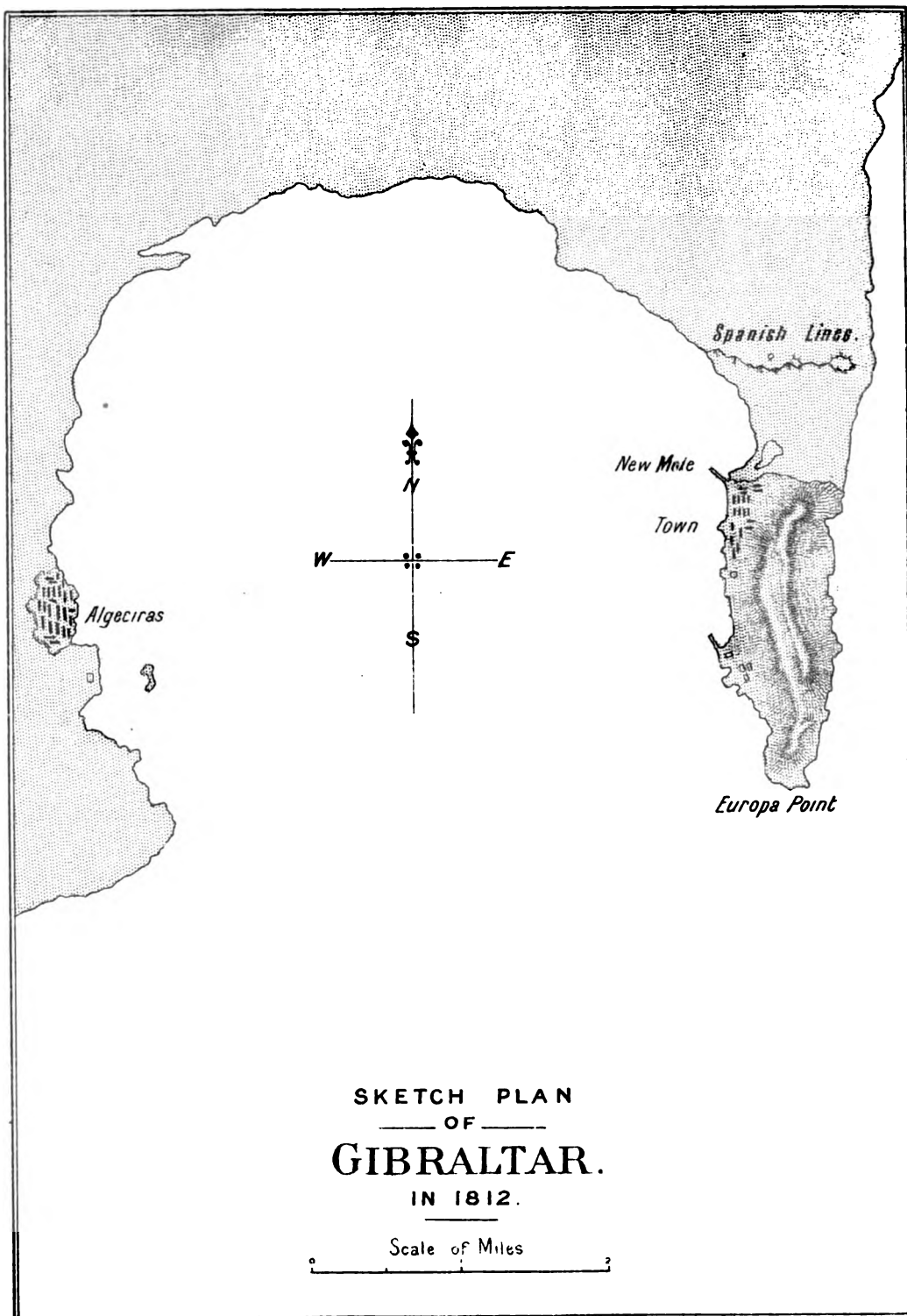
But France was feeling that something bolder and more trenchant than this waiting game was now within her power, and hoped that the assemblage at Cadiz, ostensibly acting against Gibraltar, might be turned against Jamaica. International jealousies brought the project to an end, and on the 3rd of January, 1781, the French squadron, now commanded by d'Estaing, and probably of 19 or 20 sail of the line, was back at Brest.

The blockade of Gibraltar had been taken up by Don Barcelo again, the moment Rodney disappeared. Cordova was by way of preventing its second relief, with about 30 sail of the line at Cadiz. The only really active operations against the place were conducted on the land side by Mendoza, and these were pushed on with great vigour and perseverance. From the direct attack Gibraltar was suffering little; from the sea blockade it was suffering much, and a second relief was arranged.

On March 13th, 1781, Vice-Admiral Darby sailed from Spithead with a convoy of 200 sail of victuallers and store-ships, nearly half of which were for the relief of Gibraltar, and of which the escort was no less than 29 sail of the line, with 12 frigates and small vessels. It was practically the whole of the home force, but nothing short of such a display could insure the safety of a fortress, so far impregnable to all but famine.*

* "So early as the preceding month (October, 1780), their wary and provident governor found it necessary to make a reduction of a quarter of a pound from each man's daily allowance of bread. Their quantity of meat was likewise reduced to a pound and a half in the week; and that became, latterly, so bad as to be scarcely eatable. . . . Of the most common and indispensable necessities of life, bad ship biscuit, full of worms, was sold at a shilling a pound; flour, in not much better condition, at the same price; old dried pease at a third more; the worst salt, half dirt, the sweepings of ships' bottoms and store-houses, at eighteenpence; old Irish salt butter at half-a-crown; the worst sort of brown sugar brought the same price; and English farthing candles were sold at sixpence apiece.

But fresh provisions bore still more exorbitant prices. Even when the arrival of vessels from the Mediterranean opened a market, turkeys sold at £3 12s. apiece; sucking-pigs at two guineas; ducks at half a guinea; and small hens sold at nine shillings apiece. A guinea was refused for a calf's pluck, and £1 7s. asked for an ox-head. To heighten every distress, the firing was so nearly exhausted as scarcely to afford a sufficiency for the most indispensable culinary purposes."—*Annual Register* for 1782, pp. 99–100. Beatson, vol. v., p. 337.



BAIRD & SONS, LONDON.

Darby arrived off Gibraltar on April 12th, and the next day he sent in the victuallers and transports, of which he had 97, under the escort of a detachment of 4 sail of the line and some frigates under Sir John Lockhart Ross; 13 store-ships and victuallers, under convoy of 2 frigates, were at the same time sent on to Minorca. "From the moment in which Admiral Darby's fleet came in sight of the fortress, the Spaniards opened all their batteries, hoping by their tremendous cannonade and bombardment to prevent the store-ships and victuallers from approaching the rock. Perhaps nothing more awfully loud was ever heard before. A hundred and seventy pieces of cannon and eighty mortars disgoring at once their horrid contents on such a narrow spot, made the beholders imagine that not the works only but the rock itself, was in danger of destruction. The enemy continued this astonishing fire, night and day, for a considerable time, without intermission; and the garrison returned it with the most undaunted and persevering resolution."* The chief work of the blockade had been carried on by means of gun-boats, under oars, of which the Spaniards had constructed a considerable number. During the continuance of the convoy in the bay, about 20 of these craft used to issue from Algeciras every morning, taking advantage of the early calm, and displayed the greatest and most successful audacity in attacking the convoy and its covering ships. But by the 19th of April all the store-ships were cleared, and the coal-ships sunk inside the Mole to be weighed when wanted, and the Admiral made sail for England.†

Meantime the whole military power of Spain was concentrated on the isthmus which connects the rock of Gibraltar with the mainland, 170 guns of the largest calibre, and 80 mortars, protected by stupendous works, poured their fire into the place, hurting the actual works but little, but leaving the town a wreck and uninhabitable. It was computed by the garrison that in the first three weeks of this attack the Spaniards must have expended 100,000 lbs. of gunpowder and from 4,000 to 5,000 shot and shell in every twenty-four hours. But after discharging 75,000 shot and 25,000 shell at this rate, it was lowered to 600 projectiles a day, and so continued for several weeks.‡ But the loss to the garrison, on account of the protection afforded by casemates, was small. From April 12th to the end of June only 53

* Beatson, vol. v., p. 344.

† *Ibid.*, vol. v., p. 348.

‡ *Annual Register*, 1782, p. 104.

officers and men were killed and 260 wounded. So the siege proceeded with great expenditure on the one side,* and, now that provisions abounded, little hurt on the other.

But now, in despair with Spanish delays, as they appeared to France, the latter proposed a determined attack on Minorca. Spain agreed, and on June 23rd, 18 sail of the line, commanded by de Guichen, arrived at Cadiz from Brest, and were placed by their commander under the orders of Cordova. In a month, a combined fleet of 49 sail passed out of Cadiz, escorting an army of 10,000 men. On the 25th July Cordova, agreeably to his orders, detached the transports with the army, under convoy of 2 line-of-battle ships and some frigates, while he himself returned towards the entrance to the English Channel.

The progress of the army and its escort was so slow that it only got sight of the island on the 18th August. The former landing, it may be remembered, had taken place at Ciudadela; but it was now held that that was a blunder, as the garrison of the island were not taken by surprise, and had time to collect into the citadel of Fort St. Philip. The plan now was to land only a detachment at Ciudadela and to land the main body in two parts, one three or four miles to the north, and the other three or four miles to the south of Port Mahon. So far as it was a surprise, the plan failed, for there was plenty of time to draw in most of the outlying garrisons and to secure a certain amount of provisions. But Fort St. Philip was securely invested by land and sea, and the Duc de Crillon, who was in command of the Allies, leisurely sat down before it, sending to Barcelona for reinforcements and stores in order to press on the siege. Six thousand additional troops presently arrived from Toulon, and the total force ultimately employed came to 16,000 men, with 109 pieces of battering cannon and 36 large mortars. The opposing garrison was no more than about 2,700, all told. It was about half the strength necessary to man the works.

The blockade of the harbour was not complete. It was so incomplete that, though the enemy was in possession of all its shores, General Murray, the Governor and Commander-in-Chief, was able to send a detachment in boats by night to beat up the Duc de Crillon's quarters at Mola. And the British Consul at Leghorn was able to pass several ships into Fort St. Philip with supplies, and even with recruits.

* The estimated cost of the ammunition expended was £10,000 a day.

The enemy was so leisurely that he did not open his batteries till November 11th, after which date they kept up a heavy fire, without, however, at first doing much damage to the works. The garrison replied with spirit and success; but it was evident that an end must come if no relief appeared from the sea. And no relief could come. Minorca, with only half, or less than half, the garrison of Gibraltar, and without its prestige, could not draw the whole of the English home fleet to its succour,* and nothing was left but to hold out as long as it was possible.

Leaving a commanded sea behind him, and the investment and siege of Gibraltar and Fort St. Philip in serene and uninterrupted progress, Cordova consulted as to the feasibility of attacking Darby at anchor in Torbay. He had all the numerical superiority necessary, and only the prestige of the English navy prevented its being done. It is impossible to say what the tremendous historical consequences of such an attack might have been had it succeeded; but it was so near that when de Guichen returned to Paris it was difficult to preserve him from a mob, because he had not enforced the opinion in favour of an attack which he was known to hold.

The Duc de Crillon proceeded with the siege of Fort St. Philip. It was well provisioned with all that could be stored, and though the fire of the enemy was now beginning to tell, in injuring the works, dismounting the guns, and in one case destroying a great magazine of provisions, yet little impression was made on the strength or *morale* of the garrison so far. But scurvy began to show itself, and a closer sea blockade stopped the entry of fresh vegetables. The general health of the garrison began to fail, and the end drew nigh. Fever and dysentery set in above the scurvy, and the defenders were becoming *hors de combat* by the indirect, though not by the direct, efforts of the besiegers. But they held out. They died in the guard-rooms and on their posts as sentries, and by the beginning of February 1782 only 660 men were fit for duty, and of these only 100 were untainted with disease.

On February 4th General Murray offered to capitulate, and the decrepit garrison marched out with all the honours of war.

The fall of Minorca caused the Spanish Government to hope for the best from a simultaneous attack on Gibraltar by land and sea. The nature of the attack is too well known to need recapitulation here. But it must be pointed out that while the land part of it was in ordinary form, the sea part was chiefly carried out by

* The garrison of Gibraltar, when Darby turned his back on it, was 6,183. Beatson, vol. v., p. 349.

specially prepared engines of war. It is only of antiquarian value to inquire how those engines were constructed. They never were, and never will be, repeated. It is enough to know that when brought face to face with the works on September 13th, 1782, they failed utterly and ignominiously, and that Gibraltar after the attack remained just as strong as it was before. But no stronger. It was impregnable to direct attack—so, apparently, was Fort St. Philip. But it would fall to the indirect attack of famine, as Fort St. Philip did, unless the whole naval power of England were once more put forth to save it. Lord Howe sailed on September 11th at the head of 84 sail of the line, besides frigates and small vessels. He escorted a great fleet of store-ships and victuallers, and carried two regiments in transports for recruiting the garrison. Lord Howe was the usual month in reaching the fortress, and heard on his way that the combined fleet of 40 sail of the line was ready to receive him. With some difficulty, owing to the bad navigation of most of the convoy, and in safety, owing to the sufferings of the Franco-Spanish fleet in a recent gale, and to their want of enterprise, Lord Howe threw all his supplies into Gibraltar; but he was during the whole time, as it were, facing the enemy's fleet; and so pressing was his condition that some of the officers of the garrison on a mission to the fleet were carried into the Atlantic and could not be landed. Ready to face and to fight the numerically superior force, Howe was not disposed to do it in the confined waters at the eastern entrance to the straits. He passed out of the Mediterranean 84 sail of the line strong; he was followed by a fleet apparently 44 sail strong, which brought him to a partial engagement, but sheered off when Howe appeared prepared for closer quarters.

This was the third and last relief of Gibraltar. I have combined it and the proceedings relating to its attack and defence, with the second fall of Minorca, led up to again by the first fall of that fortress, because all the operations seem to tell the same tale, and to be inseparable in principle, both the one and the other being those with which these chapters have made us familiar.

Gibraltar, and Fort St. Philip at Minorca, were but those citadel fortresses which I have described in a previous chapter as being universally employed. But Gibraltar differed from Minorca, and from most sea-faced citadels, inasmuch as owing to the narrowness of its land face and the impregnability of one of its sea faces it was unapproachable except at enormous disadvantages. In no case could it be subject to a full cross fire such as an ordinary fortress.

regularly invested by land expects to be. The idea of breaching it in a regular way from the land side was almost hopeless. In such a condition its close attack by an overwhelming fire from line-of-battle ships was known to be at least exceedingly hazardous, but the form of attack—which Sir George Rooke had used for its first capture—was not employed. If we ask, Why not? we must no doubt answer, Because of the wholesome fear of stone walls with which most naval authorities were imbued; but, more, we are safe in saying, Because the Franco-Spanish command of the sea was precarious. The Allies were able to make themselves masters of Minorca, and to drive Gibraltar to excessive straits. But as what was going on in the East and West Indies and North America permitted the attacks on these strongholds, so the presence intact of a fleet of 30 or 40 sail of the line in Southern European waters was that which governed affairs in these distant parts of the world. Let but the Franco-Spanish home fleet meet with complete defeat, and the strain which England was suffering would be relaxed. It was the necessities of her home naval affairs which threw her into such naval difficulties abroad, even as it was the pressure of her affairs abroad that made her home difficulties. For her enemies to throw themselves against the stone walls of Gibraltar might win Gibraltar—possibly. But what would a disabled fleet do against the intact British one, even numerically inferior? But in the cases of both Gibraltar and Minorca, the strength was not in the attack, but in the investment. Supplies were withheld from Fort St. Philip, and it fell. They were not withheld from Gibraltar; they were thrown in at the risk of the United Kingdom, and to some extent it may be said that the American Colonies and Gibraltar were weighed against one another, and the American scale went up. When Darby was passing out of the Channel to relieve Gibraltar, de Grasse was passing out to attack us on the other side of the Atlantic. At the time it was debated, and at the time it was doubted, whether the real rule of war was followed when Darby avoided him.*

Gibraltar was therefore on all grounds exceptional, and it held out because it was so. Minorca fell under the general rule, and passed into the enemy's hands, who absolutely commanded the surrounding sea. There was nothing peculiar about it, and it was attacked according to rule. As if to emphasize the maxims which were now accepted, the great naval force which was necessary, if

* See *Annual Register*, 1782, p. 102. Darby sailed on March 18th, and de Grasse sailed on March 22nd.

Minorca was to be attacked at all, never even sighted the island. Now, and after all experience more than ever, was the attack on a port a military and not a naval affair. Now, and more than ever in the cases of Gibraltar and Minorca, was it seen how powerless the navy was in direct attack, how all-powerful in defence and in indirect attack.

And again we are brought face to face with the two or three prominent points which concerned the objects and uses of fortifications. The citadel form in both cases showed its power of delay, and showed at the same time that it had no other power. A day after the troops landed, Minorca fell without opposition, and all the stores and appliances of the arsenal fell with it. Were philosophy permissible in war, the Allies might have captured Fort St. Philip nearly as soon had it simply been invested, out of the range of its guns. Gibraltar did not fall, just because it could not be invested for a long enough time, but also because troops could not be landed out of range of the batteries. Fortification so far has all that the range of its guns give it, but no more; and when it can be invested and opposed by fortification, it falls whether or no for want of supply.

Still we seem to see that those who made our history for us looked to their works to serve the purposes of delay only, and not really of defence.

(To be continued.)



The "Coup de Jarnac."

BY CAPTAIN ALFRED HUTTON.



THE *Coup de Jarnac* has two distinct identities, the modern and the historic. In those *salles d'armes* which are affected by the votaries of the sabre, it is simply a technical term of fence denoting a cut at the leg, our old friend "Cut 4," in fact, and this I pointed out in my glossary of fencing terms in "Fixed Bayonets." It is interesting to note, however, that certain persons have an idea that the term *coup de Jarnac* implies something unfair, than which nothing can be more erroneous. The notion seems to have crept in owing to the fact that in most continental schools the leg is, for some reason or other, not recognized as being a vulnerable portion of its owner, and the foreign masters teach their pupils neither cut nor parry for it. The cut at the leg was certainly used by the pioneers of sabre play, the stout old English "backswordmen" of a century or two ago, as both Captain Godfrey and Captain James Miller, hard practical swordsmen of the early eighteenth century, very graphically show us.

So much for its modern aspect, we will turn now to the *coup de Jarnac* of more romantic times. Why Guy Chabot, Sieur de Jarnac came to be regarded as its inventor history does not say, but history does record its use somewhat earlier in a duel between René de Sajault, one of the royal pages, a little scamp of about sixteen, and a big burly fellow in the King's Guard, during which the youngster contrived, by this identical stroke, to hamstring his redoubtable opponent, who died of his wound a month afterwards. This took place in July 1540, during the reign of Francis I., and the *lettres de rémission* granted by him to the boyish victor are still extant in the possession of the celebrated Parisian *maître d'armes*, M. Vigeant, as is also the entire *procès verbal* of the encounter between Jarnac and Chataigneraye, which occurred seven

years later. Brantôme mentions the employment of this stroke on two other occasions as well, namely, in a duel between a French captain named Provillan and an Italian, in which the Frenchman was the sufferer, and in an affair in the reign of Francis II., between M. des Bordes and M. de Gerzay, when both were badly wounded, but Des Bordes the worst, as he received this *coup de jarret* (ham-stroke), as Brantôme always calls it, which crippled him for life. In old times it certainly was not considered in any way unfair, but, on the contrary, something decidedly clever, and it was taught by many of the fencing-masters to such of their pupils as would take the trouble to learn it. Jarnac himself worked at it for a whole month previous to his memorable fight, under the tuition of an Italian captain named Caize. In the combats of that period those who engaged in them usually wore complete armour, and the only part of the person unprotected by it was the back part of the thigh; and this was necessarily so from the fact that many of these encounters took place on horseback, and, with the leg completely encased in steel, it would have been impossible for the combatant to retain his seat. This "false edge" cut with the sword and sword-arm in a *caré* position was introduced in order to reach the exposed part.

D'Audiguier, 1617, gives a very graphic description of the Jarnac-Chataigneraye affair. It seems that the Seigneur de la Chataigneraye had made certain remarks to the then King of France, Francis I., derogatory to the character of De Jarnac, which the King repeated to him, and which he denied in language so unequivocal that there was nothing left for Chataigneraye but to send him a challenge. They accordingly applied to the King to grant them what was termed "the lists," or permission to decide their quarrel by a public encounter carried out with all the pomp and ceremony customary when two great nobles were concerned; Francis, however, feeling that he himself was in measure the cause of the disagreement, refused the favour, but after his death, which took place during the following year, his successor was prevailed upon to grant it; the *champ clos* was ordered at St. Germain at the end of the month, and during the interim both champions were allowed to practise with whatever arms they pleased.

On the appointed day the "lists" having been prepared, and a large stand erected for the accommodation of the more distinguished spectators, His Majesty, attended by a great number of noblemen, took his seat in what we should now call the

Royal Box, whereupon Chataigneraye, attended by his second, entered the lists. Jarnac also appeared, accompanied by the Seigneur de Boisi, and both retired to their respective *pavillons*. Jarnac then sent to his enemy, according to the usual custom, his esquire with the arms he had selected for the combat, namely, a helmet, corslet, a double-edged rapier, a large fighting dagger to be used in the left hand, and a smaller one to be worn in the right boot, with last, but not least, a *brassard* or arm-piece of very peculiar form, being made quite solid and without any joint, so that although the wearer could move his shoulder and his wrist, his elbow was kept quite rigid and in a semi-curved position. This was to be worn on the left arm, and its use was imposed by Jarnac in order to cripple the movements of his antagonist, who it was expected would come to close quarters at once and attempt to throw him, he being one of the most redoubtable wrestlers in France, and in those days, the days of the dagger, wrestling formed a very important part of the science of fighting. Chataigneraye would have been quite within his rights had he refused to wear this *brassard*, as it had been agreed that only such arms were to be employed as were in general use among gentlemen; but he chose to regard his opponent with such utter contempt that he accepted whatever armour was sent to him. Jarnac, on the other hand, had calculated most carefully the superior resources of his enemy, and had made his preparations with such forethought that among his own people his victory was a foregone conclusion, and D'Audiguier relates that when his esquire was fixing the famous *brassard* on to Chataigneraye's arm he hurt him somewhat, whereon Chataigneraye told him that when the combat was over he would make him repent of it, and that the esquire replied, "I shall not have much fear of you when my master has done with you." Jarnac's fencing-master, too, Captain Caize, just before the fight commenced informed the bystanders that they would shortly see a ham sliced.

The combat was of short duration. As soon as the trumpet sounded for the champions to advance, Chataigneraye rushed furiously from his *pavillon* intending to bear down his enemy by the momentum of his onslaught; but for this Jarnac was prepared, and he entered the arena more cautiously, keeping his man as much as possible at a distance, when, after a few passes had been exchanged, he made a feint at the outside of the leg, passed the point of his sword behind it on the inside, and with a drawing cut of the false edge completely severed the great sinews. The wounded man fell to the ground, and Jarnac approaching the King

asked him if he had done enough to satisfy his honour. But while His Majesty was engaged in consultation with one of his courtiers who was a recognized expert, Jarnac perceived that the fallen Chataigneraye was trying to rise, and he accordingly went towards him for the purpose of finishing him with his dagger; but the king, not wishing the affair to end fatally, threw his staff into the arena and thereby stopped the combat. The story goes that Chataigneraye had reckoned with such certainty on an issue favourable to himself, that he had provided a magnificent banquet to which he had invited the king and all his court in order to celebrate the event, and he was so enraged at his discomfiture and the ridicule which his self-conceit must necessarily bring upon him that he tore off with his own hands the bandages which the surgeons had applied, and died from the effects in the course of a few hours.

This was the last combat *en champ clos* which took place in France, for Henry II., who regarded Chataigneraye as one of his most intimate friends, was so chagrined at his death that he made a vow never again to grant the privilege of the lists to anyone, and his obstinacy in this respect was the immediate cause of those terrible duels in which the seconds, as well as the principals, were expected to fight, and which, by the end of the reign of Henry IV., had robbed France of the lives of more than four thousand gentlemen.



How I Lost the Queen's Prize at Bisley.

By ARTHUR M. HORWOOD.



AM the best shot in my regiment. For the last three years I have worn on my sleeve the coveted slip of tinsel and cloth which records that exalted position, to say nothing of the numerous and valuable prizes that have fallen to my lot, and the medals and badges which emblazon my uniform. At regimental competitions my name heading the lists of all those I have entered for is expected, and accepted, as a matter of course; and at county rifle meetings it has been of rare occurrence when I have not figured amongst the best of those "highest scores" that are published in the papers.

In view of these exploits, modest and insignificant though they may be, it is rather remarkable that I had never attended a meeting of the National Rifle Association until this present year. For one reason or another, I had always found it inconvenient or impossible to get leave of absence from my post at my desk in July, to try my luck on Wimbledon Common; and my first trial of skill, in competition with all the crack shots of Great Britain, was deferred until "Bisley" came into operation; and it was then and there that I met with a disappointment, so bitter and severe, that I think very probably it was my last as well as my first appearance in the National Rifle Association's arena.

To speak—even to reflect—upon a *contretemps* so disastrous as that I there encountered is so galling that only in the interests of other hard-working shots do I turn to pen these lines, wishing they may learn a timely lesson from my misfortune and profit thereby.

I was shooting better than ever this year. Frequently at practice I put on h.p.s.'s, and my friends prophesied great things of me when they heard I was going to Bisley. I had faith in myself, also, and when they laughingly declared I should pull off both the

Queen's and St. George's, I was thinking it quite on the cards that I might so distinguish myself.

Almost daily I obtained practice on our local range, and morning and evening I devoted a considerable time to aiming and "snapping" at a miniature target. The sights of my rifle presented a veritable study in black and white, so finely and with such mathematical accuracy did I draw the minute vertical lines; and I could have stocked a very fair-sized shop with my assortment of verniers, orthoptics, goggles, fouling-moisteners, binoculars, &c.

At length the day arrived for me to proceed to Bisley, and enter the lists in competition with some two thousand other champions. I did not arrange to stay in camp, as living in the suburbs of London, I could travel up and down daily without much inconvenience; and in this manner felt more certain of obtaining unbroken rest at nights, a most important consideration in my opinion, and one that I fancy is very frequently overlooked.

I was squadded for 11 o'clock on the first day of the Queen's, and I timed myself to arrive there just in nice time; no hurry and flurry, still without too much waiting about.

I may mention that I did not sleep well during the night. I was—well, perhaps, a little excited and overstrung; and a neighbour's dog barking in the back garden had irritated my nerves. I felt these combined influences would seriously affect my chances of success. The consequence was I did not obtain forty winks, and started off from home like a bear with a sore head.

At last, when fairly started in the train for Brookwood, I stowed away my rifle carefully in the rack, and turned to my pipe for solace, and began to feel in a better humour. We sped through the country smoothly and quickly; then I began to doze placidly. Once, twice, I dropped my pipe on the floor of the carriage, and as many times stooped to pick it up. Again it fell from my grasp, when the door of the carriage was thrown open, and a voice exclaimed:

"Now then, Sir, you're for Bisley, ain't you? Look alive! This is Brookwood; change here!"

I started to my feet, seized my bag and coat that lay alongside me on the seat, and sprang out of the train just as it got into motion again.

I rubbed my eyes, shook myself, and then a terrible misgiving flashed through my brain. "My rifle! I have left it in the rack in the carriage!" I gasped to the porter who had awakened me.

"You had better telegraph on, Sir. I daresay it will come to hand in three or four hours' time."

In three and four hours' time! and my squadding ticket was for just half an hour ahead! I made frantic inquiries of the station-master, but I was at once convinced that if I fired that day it would be with a strange rifle, or not at all.

I hurried on to the camp, and in my desperation hunted up a couple of comrades in their tent. They laughed, positively laughed, at my misfortune, but willingly enough offered the use of their rifles. Well, I accepted the loan of Smith's, and after making full inquiries as to its character and peculiarities, and



"Now then, Sir! Look alive!"

examining the sights (ah, they weren't painted like mine), I ran for the firing-point as the time was getting short.

It is unnecessary for me to say I felt perfectly convinced that I should make a wretched score. A strange rifle is quite sufficient to effect this consummation, let alone an overwrought condition of nerves. Then I could have wished that Smith had not thought it necessary and proper to follow closely on my heels to the firing-point—"to see me through," as he expressed it. The fact of my handling his rifle invested me with new and powerful interest in his eyes. He even went so far as to whisper in my ear, as I crossed the ropes, that he should expect "halves" of whatever I pulled off, and concluded by giving me a friendly slap of encourage-

ment on the back that fairly shot my goggles off my nose, and sent my heart into my mouth.

At eleven, to a minute, I dropped down on my right knee and cast loose my ammunition. So certain of failure was I that I raised my rifle to my shoulder carelessly, and scarcely troubling to aim, I fired.

To my surprise, up went the dummy, recording a bull. I could hardly believe my eyes. The register-keeper, however, believed his, and duly chalked a handsome five on the black-board. With my second round I took more elaborate pains; my spirits were rising, and I found, in spite of all, I was in very fair form. I pulled the trigger. Again I saw the dummy emerge from the ground, with its most welcome cast of countenance, and again the register-keeper announced a fiver. My third shot was attended with a like result, as was my fourth, my fifth, and my sixth. Then I paused for breath. I was getting excited. I was attracting attention. I could recognize Smith's voice in rear of me raised to the top of its pitch; he also was inspired by my success.

I used my fouling moistener, carefully examined my back-sight, to make sure it had not slipped, and then slapped in my seventh and last round. I aim three separate times with the greatest care; my hand begins to shake. The inexorable range-officer declaims, "Don't lose any time, please!" Then, "bang!"

I peer through the smoke and—yes, up shoots the dummy—unaltered.

My score stands at 35—the h.p.s., and I am delighted—fairly delighted.

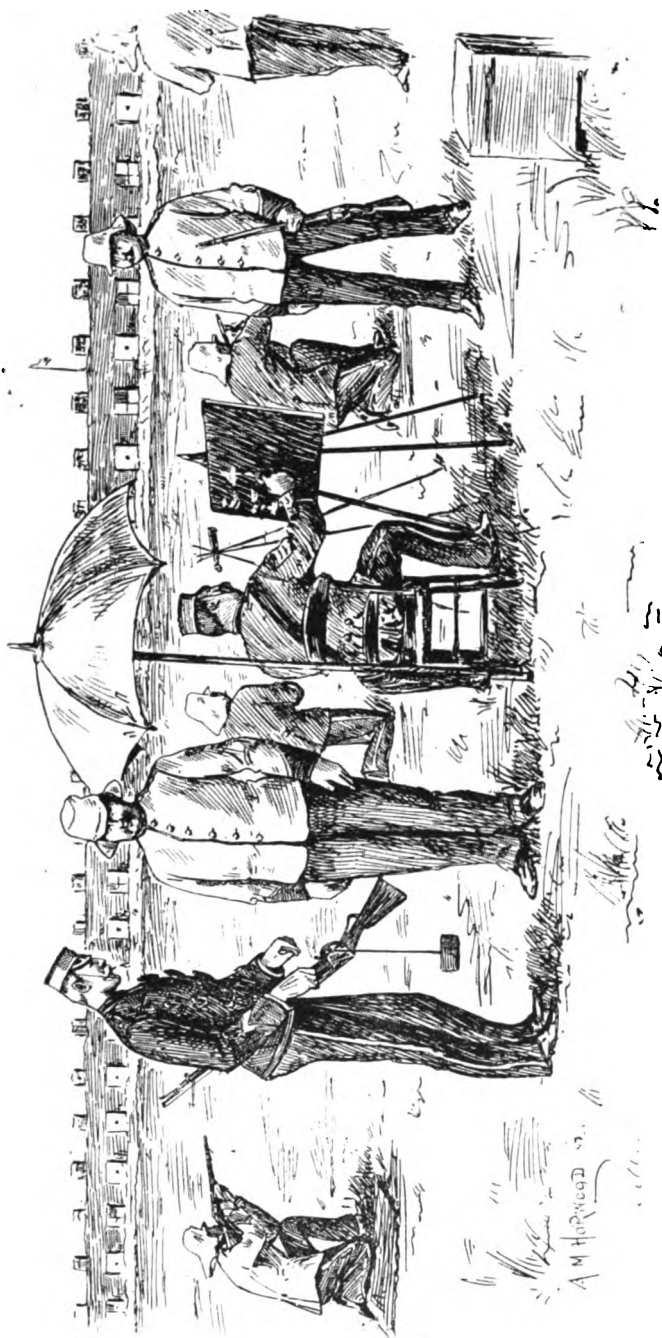
Smith crows out, "Hurrah, old boy! you'll get the Queen's," and I proudly rise to my feet, feeling I have done well.

"Here, you; please just wait a minute, and have your trigger tested," cries the register-keeper, as I prepare to march.

For the moment I had forgotten the fact that it was not my own rifle I held in my hand, and felt no uneasiness as to the result of the ordeal. I was much too careful a shooting-man to neglect the precautionary measure of carefully testing its pull before starting.

But as the tall, slim, sunburnt range-officer came striding towards me, holding the trigger-tester in his hand, this momentary obfuscation of my intellect cleared away, and I remembered with a twinge that it was Smith's weapon I had fired with.

I was on thorns for the next two or three minutes, for the range-officer holding the rifle in one hand and the weight in the other,



"It won't carry it. I must disqualify you."

was called upon to decide a point between the register-keeper and a competitor, who, failing to establish his claim, became covertly insolent, and considerably ruffled the equanimity of the officer.

At last the offender was peremptorily ordered to move off; and the officer, heated and fuming, once more turned to attend to me.

He dropped the butt of the rifle heavily on the ground and stooped to adjust the weight. I gazed on with bated breath, fervently hoping that Smith was a careful man, like myself, yet doubting it.

But, joy! The rifle was raised right off the ground, and no dread snap of the trigger had sounded.

"Yes, it's all right," said the officer, to my inexpressible relief. "It must pull considerably over six pounds, this trigger of yours."

"Yes, Sir," I assented, agreeably; "a good seven."

"Seven; ah, more than that. Confound it though—what am I doing?—it isn't cocked!"

It was not. I had omitted to notice it, as had the officer, perturbed by his recent altercation.

I have hardly the heart to tell what followed. I turned my head away, and the next moment heard a fatal click, and the ugly words—

"It won't carry it. I must disqualify you."

* * * *

I returned Smith his rifle with many thanks. I was quite collected, and, I hope, dignified. I certainly did just quietly hint that he had been guilty of asinine folly in bringing and using a rifle untested (for he had himself fired with it earlier in the morning; yet, although he had made the grand score of 17 it was not thought necessary to submit it to the test); but as he made a rude and insolent retort, suggesting the propriety of a nurse to take charge of some people when travelling, to see they didn't lose their property, I left him, and very soon after turned my back on Bisley, thoroughly out of temper.

The same day I recovered my rifle, but I didn't return to Bisley during the whole meeting, although I had entered for some of the smaller prizes. I was too disgusted.

Even at the present moment, whenever I meet Smith, I feel annoyed and filled with vain regrets. If I had applied to anyone but him for the loan of a rifle, I might to-day have been a G.M., and a happy man.



The Fight of the "Dolphin."

1616.

*HONOUR to England's navy, and its doughty deeds at sea !
 Yet I doubt if a nobler fight, more worthy of wide renown,
 Was ever fought on ocean, or till Doomsday fought will be,
 Than that of the little " Dolphin," a trader of London town,
 Which long ago with six Turkish ships of battle did betide
 In the reign of the learned James, in the year that Shakespeare died.
 Here in rhyme is the tale, which one of the crew wrote down.*

I.

We left Zante far behind, with a steady favouring wind,
 In our good ship *Dolphin* ; laden with the pleasant things of
 Greece,
 Westward we sailed away, for one week and a day,
 Never doubting, with God's help, to make our port in peace.

II.

Thirty-eight was all our crew ; but while a fair wind blew,
 Master Nichols had not feared, tho' a pirate gave us chase :
 For if, well found and fast, he had caught us up at last,
 We had twenty-eight good English guns to make him keep
 his place.

III.

At last the fair wind dropped ; failed, to the westward chopped :
 And we lay almost becalmed by the sandy coast of Spain ;
 And the early morning watch, looking westward, sight did catch
 Of a great barque which bore slowly towards us from the shore :
 And our look-out from the mast saw five more which followed
 fast
 On the heels of the first monster, with the wind, upon the main.

IV.

Then our master said, "There's work
Before us, men! I see yon are Turkish men-of-war;
But who ever feared a Turk?
What Englishman would flee, fear a fight, or shun a scar,
Tho' he were one to ten white-livered Turkish men?
Get the guns out! then to prayer!
And then some English fare!
They will find us staunch and stout,
With a welcome, I'll be bound, from our guns here, good and
sound,
That will make the rascals stare!"

V.

Then we gave a mighty cheer, and we made the vessel clear
For the fight, and so to prayer;
Then dined on double fare,
When our noble Master brave, fresh words of courage gave,
Which made our hearts so stout,
That we laughed the Turk to scorn, and longed to fight it out.

VI.

By this time their ships did swoop close upon us. On the poop
Master Nichols went, and thrice his sword he waved,
Dauntless, as if he had won the victory.
Then he bade his trumpets blow—had fifty been the foe,
We would have fought them then, and all their onset braved.

VII.

They fought us two and two,
Ships of nigh three hundred tons: each a double score of guns;
"Shoot!" the Master loud did cry, as the first came sailing by,
And we shot her thro' and thro'.

VIII.

So we fought them, by the glass, for two good hours and more,
Hard by the Spanish shore;
While, like wolves who wait to tear what their fiercer comrades
spare,
Their four fellows stood away, and tacked about the bay,
That, if the first forbore, they might pounce upon the prey.

IX.

Then they laid our ship aboard, and we stood in sorry case :
For on our decks a horde of Turkish devils poured,
With their falchions, fierce of face :
Till a trusty murderer,* from the Master's round-house speaks,
When, quicker than they came, they fled back with their shame,
And lay by on the lee, to breathe and mend their leaks.

X.

Whereat two more of their ships bore down upon us, thinking to find
Us an easy prey for their clutches, mauled by their comrade's claws ;
But we gave them a broadside each, and tacked about with the wind,
And so forced them both for a space to keep off their heathenish paws ;
Till at last they laid us aboard, and entered our barque like bees,
With a noise like a legion of rooks that clamour at eve in the trees.
But at last we put them to flight, black rascals, rogues of the sea,
And we battered them grievous and sore, and they too lay by the lee.

XI.

Then their last two ships of battle bore down on our little barque ;
Each manned by two hundred men, each of more than two hundred tons,
Then we called upon God, our Friend, Who the cry of the needy doth hark,
Who victory gives as He wills, and again we stood to our guns ;
And the first we shot thro' and thro' and laid him too by the lee,
And gave the glory to God, who rules the waves of the sea.

XII.

Then their last ship laid us aboard, on the starboard quarter,
and thick
As flies that to carrion swarm, the Turks climbed our bulwarks,
and quick

* A small carronade firing bullets, to repel boarders.

With their scimitars, falchions and pikes, they ran to and fro, and
 they cried,
 "Yield! yield! Save your lives!" But with nought but our swords
 we replied;
 Standing stiffly to our defence, choosing rather to die than to
 yield,
 As was ever the English fashion on many a famous field.

XIII.

Now mark the ways of the Lord! How He saves men, when sore
 bested,
 They call to Him out of the deep in their need and in danger
 dire.
 For in this skirmish we fought with a foe than the Turk more
 dread,
 More fearful, relentless, and swift, the awful demon of fire;
 But mark! the fire was our friend, our succour; for when the
 Turk
 Perceived how it fiercely raged, he fled by the way he came.
 He hauled his vessel off from the burning *Dolphin*, his work
 He thought would be sooner done by the swifter demon of flame.

XIV.

But praise to the God of battles, Who rules the waves as He
 will!
 He hath power, too, over the fire, Who saith to the storm "Be
 still!"
 For He sent us the means to quench it. Then a favouring breeze
 upblew,
 And the *Dolphin* sailed away with her wounded and worn-out
 crew;
 Oh, glad were we that sunset when we let the anchor slip
 By the coast of Spain, not a Turk in sight, to bind our wounds and
 the ship!

XV.

Seven of our men were dead, and nine were wounded sore;
 The *Dolphin* battered and torn by the Turkish fire and shot.
 Our dead we buried at morn, in Spain, on the sandy shore,
 Then sadly we hoisted sail, and bore away from the spot,

Where our comrades sleep by the sea, far away from their native
land,
But they died as Englishmen should, face to foe, with the sword
in hand;
And the Sultan knows how many Moslem wives do rue
The day when the *Dolphin* gave their rascally mates their due.

XVI.

Westward we sailed away with the wind, for the straits of Spain,
Which scarce had we left behind, when a fearful storm arose,
With volleys of thunder, flashes of fire, and torrents of rain;
But we trusted that He who had saved us out of the hands of
our foes
Would not give men He had saved from the Turk to the waves
in their hate;
But four of our wounded died, their bodies we cast to the sea,
Five days we were tossed by the tempest, the sixth it began to
abate,
And the wind veered round to the south, whereat right joyful
were we.

XVII.

So, with a favouring wind, the *Dolphin* sailed from the south,
Passed the white cliffs of Kent—like a dream—and swept up the
Nore;
Sailed on a Sunday morn up the noble river's mouth,
How our hearts leapt up when we heard the church-bells chime
from the shore!
O ye who in England tarry, safe when storms sweep the seas,
How can ye fathom our joy, when our perils all overpassed,
We floated that happy day by the quiet fields at our ease,
With the peaceful tide, up the pleasant Thames, in sight of our
homes at last?

Jottings from the Foreign Press.

THE EASTER MANŒUVRES OF THE VOLUNTEERS.—The *Jahrbücher für die Deutsche Armee und Marine*, among other interesting matter, contains an exhaustive paper on this subject (August). Remarking on the efforts which are apparent in Great Britain to bring her land forces into the highest possible state of efficiency, the writer proceeds to give a detailed narrative of the recent operations on the south coast between Portsmouth and Dover. This portion contains nothing that is new, but the critical part may offer points of considerable interest. The first objection raised is that the mobilization was not carried out in the manner prescribed recently, but that battalions not belonging properly to the South London Brigade were incorporated with it. The troops did not march out of Folkestone till 9 A.M., an extremely late hour according to German notions, when it is considered that they had to cover sixteen miles of distance during the day. The marching powers of the Volunteers were excellent; the Artists Volunteer Corps, for instance, did twenty miles "in a swinging pace" from Ashford to Wye. Attention is drawn to the fact that cyclists did the duties of cavalry, not only as orderlies but in the department of scouting. In the enclosed country which predominates in the South of England, this, however, may possibly succeed. The warm reception accorded to the Volunteers in every village proved that they have been more fortunate than their comrades of the Regulars in securing the sympathies of their countrymen. The manœuvres were defective, from an instructive point of view, in that cavalry and artillery were in almost every instance conspicuous by their absence; at Colchester alone a regiment of dragoons took part in them. In fine, at the Easter manœuvres the British Volunteers displayed great zeal and enthusiasm, and their qualities were backed by the sympathies of the people. They

are sturdy fellows, well equipped—too lightly, perhaps, to correspond to the realities of war—and well armed. They endure the hardships of field life with good humour and patience, and the behaviour of the individual soldier in close or extended formation is not open to criticism. But there are not enough regular troops attached to contribute to their education in the field. The movements are based on hypotheses too numerous and comprehensive, and, owing to the absence of a suitable law for billeting, the marches of concentration are arranged under conditions which would not correspond to those of actual warfare. It would have been more advantageous had the strategic advance been made on foot rather than by train. The lack of cavalry and artillery is a fatal omission. True, an invader would be weak in these arms, but this is an additional reason why the Volunteers entrusted with the defence of London should be strong in them. The men did not bivouac in the open, nor were outposts thrown out at night, nor was field cooking practised. No commissariat was organized, and it would seem that it is intended to rely wholly upon local resources for the sustenance of the troops. The scarlet uniform should be abolished in anticipation of the effects of smokeless powder. The critic shares the opinion, current among those who have not worn them, that bearskin caps are an unserviceable and cumbersome head-dress. All British uniforms, he avers, are too tightly fitting and conspicuous in colour. The value of the Volunteers, however, and their field manœuvres, must not be undervalued in estimating the military strength of Great Britain. They are an inexpensive body of troops, whose patriotism might make good defective organization in the event of a sudden invasion of the coast near London. In company with the regulars, they might defend the capital successfully in the positions around it assigned for the purpose. Another boon which they have undoubtedly conferred on the country, as Lord Wolseley has recently pointed out, is to have reconciled the civil population to a permanent military establishment for the national defence, to which they were formerly so hostile.

The same number contains a short notice of a French pamphlet, *Les Forts et la Mélinite*, which is significant of a growing feeling against passive defence as represented by iron cupolas with their artisan garrisons; and in favour of active defence by an increasing mobility and the faculty which it confers of bringing a concentrated fire of artillery and musketry to bear upon the besieger's works.

RE-ORGANIZATION OF THE PORTUGUESE NAVY.—By a decree of the 20th March this navy is to consist of the following vessels :—

4 armour-clads for coast defence.

10 armour-clad cruisers of 3,400—4,500 tons : minimum speed, 20 knots.

18 gunboats of 600 tons.

12 gunboats of 150 to 300 tons.

2 steam transports of 3,500 tons.

1 training-ship.

24 torpedo-boats.

In a memorandum addressed to the King, the Minister of Marine points out that the duties which are incumbent on the Portuguese navy are to protect the coasts against blockade and bombardment ; to defend the *embouchure* of the Tagus and Lisbon against a hostile descent ; and, lastly, to *harass the commerce of a superior maritime Power*. All endeavours to contest the command of the sea are according to this programme, renounced, and consequently no first-class battle-ships are henceforth to be built. It is also thought that battle-ships of the second or even third class, in conjunction with numerous torpedo-boats, would be better able to guard the shoal waters which beset the entrance to the Tagus than those of greater tonnage. To the four armour-clads would this task be assigned, while the cruisers would be stationed at the Azores, Angola, South America, and Mozambique.

THE FRANCO-GERMAN WAR.—The *Journal des Sciences Militaires* for August, continuing the essay on “*La Guerre des Masses*,” tears to atoms the plan arranged by Napoleon III. for invading Germany in 1870. It probably originated with General Ducrot, who was at the time commandant at Strassburg. The writer in forcible language demonstrates that this scheme was based on false principles of strategy, which drew their inspiration from incorrect political information. It was intended, we know, to strike a sudden blow at Southern Germany, passing the Rhine at Maxau, with a view to reaching a hand to Austria, and detaching Bavaria, Würtemberg, and Baden from the Prussian Alliance. Politically speaking, therefore, it was founded on gross delusion ; Austria, even if willing, was not ready to take the field ; and the South German States had suffered too much in the past not to oppose a united front against the Gallic invader ; nor, strategically, was the proposal more in accord with scientific warfare. The Bavarian ‘*inate*, in advance of Mentz, being the area of concentration e Prussians, a rapid inroad in this direction would have

struck a decisive blow at the enemy, while protecting the communications with France; but the proposition to throw the bulk of the French army across the Rhine, while defending the line of communications with the weaker half of it, was to form front to a flank, and give the enemy the chance of descending perpendicularly on them by the left bank of the Rhine. The French plan of campaign also included a descent on the coasts of Schleswig (the German manœuvres this year comprise this "idea"), and an advance on Kiel in combination with a Danish army. But the most important revelation, historically speaking, which this article contains is a codicil to General Trochu's will, dated July 1870, which proves the utter confusion and lack of preparation which reigned in the counsels of Napoleon III. at this hour, so big with fate for him and his dynasty. The writer emphasizes his teachings by the epigraph, "*le nombre au point décisif*," which is not new, but still bears repetition like other obvious truths. He argues that the "Nation in Arms" cannot afford to waste its strength and time on remote undertakings, like disembarkations on a hostile coast. Every available battalion must be massed on the decisive part of the theatre of war. Thus, in a war with the Triple Alliance, an expedition against Rome or Spezzia would in his opinion be hazardous. The fate of Italy would be decided upon the Sarre.

An article entitled *Remontes Françaises et Etrangères*, in the same issue of the *Journal*, is worthy the attention of cavalry officers. It is written in defence of the French half-bred troop-horse, whose merits have, it would appear, been unduly depreciated in certain quarters. Foreign opinion is quoted in favour of the breed, and various feats narrated which they have performed. In several of these, however, the rider managed to kill his mount, and not unfrequently succumbed himself to the fatigue incurred. It is admitted on all hands that the French troop-horses have much improved in quality since the Franco-German War, when the German Staff reported on them in these terms: "Excellent horses, but very badly broken and ridden." The improvement is said to be due to the efforts of General de Galliffet.

THE USE OF THE SABRE.—The *Revue de Cavalerie* for July contains propositions for the better training of cavalry soldiers in *contre-pointe*, i.e., fencing with the sabre. The *maître d'armes* of a French cavalry regiment devotes his attention too exclusively to the making of good fencers with the *épée de combat*, or the foil, to the detriment of the interests of sabre-play. Instruction in the *salle d'armes* should be carried on conjointly with sabre exercise

on the parade ground: the *maître d'armes* should instruct the officers and non-commissioned officers, whose duty it is to communicate the knowledge thus acquired to the squadrons to which they belong. Fencing with the foil is an integral part of sabre-drill, to which it is an introduction, but it need not be imparted further than the two first lessons of the regulation manual. These include the straight thrust, simple disengagements and doubles, beats on the blade, the pressure and the *froissé*, the *coupé*, the *coulé*, and the *dérobé*, with the simple parries corresponding to these attacks. It would be advantageous, indeed, to carry the instructions further in this direction, but the weight of the sabre forbids complicated movements, and too great an inroad would be made into the instructor's disposable time. Simplicity of movement ought to be characteristic of *contre-pointe* or sabre-play. The edge may be employed, but, now that the French cavalry is generally armed with a straight blade, it must ever be subordinate to the point. Cuts, or *coups de sabre*, are retained in the drill that the trooper may not be disconcerted when he is attacked in this fashion. There are two points, at the chest (*ligne haute*) and at the belly (*ligne basse*). The writer would restrict the regulation number of cuts to three: viz., one downwards at the head, one at the face to the right, and one at the face to the left. The engagements, when mounted, are two; if to the right, the parry of tierce is employed; if to the left, that of quarte. The weight of the sabre allows of oppositions being used instead of parries. The *moulinet* may be employed with advantage in defence. The breast may be protected by oppositions of tierce or quarte; the belly by those of prime, seconde, or quinte; the head by high prime, the cheeks by high quarte or tierce. These simple exercises should be practised first on foot, then on horseback, with regulation sabres against dummies, and with wooden ones when the men engage rank against rank, they being, of course, equipped with masks and gauntlets. In their leisure hours they may, with advantage, improve their acquaintance with the foil.

SUBMARINE WEAPONS.—In the July–August number of the *Rivista Marittima*, Lieutenant Bravetta continues his dissertation on this subject, dwelling particularly on the American War (1861–1865). His enumeration of the successes obtained by the Confederates with the torpedo is very impressive; it brings home to our minds the great part which submarine warfare might conceivably play in any future maritime conflict. It adapts itself especially to the wants of the weaker party, the Power which is thrown upon the defen-

sive; the developments in torpedo warfare should therefore be watched with peculiar attention by the naval officers of a Power to whom the absolute command of the sea is an indispensable condition of national life. The importance of the subject from a purely strategical point of view is shown by the fact that General Lee, in December 1864, was enabled to keep open his communications with Wilmington, his base of supply, by means of a line of sunken torpedoes across the Roanoke river, protecting the railway bridge. Grant in vain endeavoured to force this barrier, but having lost seven gun-boats, he was compelled to desist from the attempt. An expedition to seize the heights of Drury Bluff near Richmond was frustrated in the same way, the torpedoes being fired by electricity from the shore. The scouting gun-boat was blown into pieces with 157 men, of whom only 20 were rescued alive. The *Rivista* thus describes the catastrophe:—

It was a terrible sight. The unfortunate ship rose as it were from the surface, then sank as into an abyss. The boilers burst, and the vessel, together with a huge mass of water, was hoisted into the air with a deafening explosion. The air seemed full of human bodies and flame. The explosion was succeeded by a death-like stillness, which was only interrupted by the splash of falling corpses and fragments of wreckage. Not a sound was heard from the rest of the squadron, and this awful calm lasted for several minutes. But when the first paralysis of terror had passed by, every single ship, as if seized with panic, turned and made at full speed for the narrow channel down stream, seeking to escape from so terrible a scene.

The assailants, however, soon remembered their duty, and having thoroughly searched the banks, discovered the enemy's station; the torpedoes were fished up, and the way made clear towards Richmond. But the opportunity was gone for ever; the heights of Drury Bluff had been meantime garrisoned and fortified, while General Lee had thrown a whole army corps between the Federals and his capital. As to the dangers connected with the use of the spar-torpedo, the boats' furnaces are liable to be extinguished by the column of water raised by the explosion, when the crew swim for their lives, drown, or are taken by the enemy's boats. Finally, the Northerners had to betake themselves to submarine weapons. On the 26th October 1864, a Mr. Cushing attacked the *Albatross* with his torpedo-boat when she was riding at anchor in the Roanoke, although that frigate was encircled by a species of boom. His craft, however, foundered by reason of the explosion itself had caused.

During the war between Brazil and Paraguay in 1866 a fine armour-clad frigate, the *Rio de Janeiro*, foundered in a few moments through contact with the torpedoes which the dictator Lopez had fixed in the bed of the river Paraguay. In 1877, in the

course of the duel between the *Shah* and the *Huascar*, the former discharged a Whitehead torpedo at her antagonist's beam, but ere it could reach, the *Huascar* steamed round, and making tracks at the rate of eleven knots, could not be caught up by the projectile whose speed was only nine. At night an attempt was made to send her to the bottom by means of a spar-torpedo, but when the *Shah's* launch arrived at her observed position she had already taken to flight.

In the War of 1877-8 the Russians made clever use of the various known kinds of torpedo. Unlike their adversaries, who jeopardized neutral vessels by sinking torpedoes at random, they laid their explosives systematically, so as to ensure their recovery at the termination of hostilities. The Powers remonstrated with the Sultan's Government, which organized a regular torpedo service under the direction of Lieutenant Sleeman, R.N., whose book on the subject has since attained a classic celebrity. The Russians sank several monitors with spar-torpedoes, and on two occasions attacked the roadstead at Batoum with the Whitehead. One of the torpedoes burst short of the mark, the other did not explode and was found ashore shortly afterwards. The next time, both torpedoes bursting simultaneously sent the Turkish guard-ship to the bottom.

The blockade of Callao by the Chilians in 1880 supplied some data upon which to build conjectures as to the future of naval warfare. The blockading squadron used to anchor by day off the north-west corner of the island of San Lorenzo, a single vessel steaming about the roadstead as a look-out. At night, on the contrary, the whole squadron was kept under steam for fear of the enemy's torpedoes. The Chilians found torpedo-vessels useful in preventing the escape of the Peruvian ships, but their employment was only made possible through a run of continuous fair weather. The blockading admiral attributed his ultimate success to this favourable circumstance. The defenders tried to use drifting torpedoes, but this reckless infringement of neutral rights was prohibited by the Powers concerned. A Chilean torpedo-vessel destroyed both herself and the enemy she was chasing, either by not thrusting her torpedo-spar far enough ahead, or else her great velocity brought her into the area of explosive force. The Chilean frigate *Admiral Cochrane*, ordered to bombard Chorillos, was unable to approach near enough to make her fire tell, owing to the numerous torpedoes anchored along the coast. Callao yielded on the 18th January 1881, the blockade having lasted since the 12th May. The Peru-

vian corvette *Union*, while attempting to escape, was intercepted by a couple of torpedo-boats, when the captain ran her ashore and blew her up.

RUSSIAN IDEAS ON FORTIFICATIONS.—This interesting topic is continued in the June number of the *Mittheilungen über Gegenstände des Artillerie und Genie-Wesens*. The necessity, in modern siege operations, of combining the practice of masking artillery with the utmost degree of mobility is dwelt upon. High-angle fire has been carried to such a pitch of perfection that it is no longer indispensable to get a view of the object aimed at. Hence the necessity of masking guns by means of a parapet about three yards in height; indeed, a second one is sometimes added, or a screen of brushwood, trees, &c. If the enemy can be led into error as to the assailant's position, so exact is modern fire that he will drop his projectiles one after the other quite harmlessly on to that limited area which it represents, and, especially since the introduction of smokeless powder, it will not be possible for him to correct his aim by observing the discharges of the hostile artillery. Formerly this was not the case, for the very imperfections of artillery caused projectiles to spread laterally to such an extent as to preclude the hope of security by masking. Finally, no doubt, the enemy will find out the true position; but then the principle of mobility must be invoked; the defenders will shift their batteries to another locality, which they will retain till once more discovered. Thus the armour-clad siege batteries proposed by General Brialmont will not be called into requisition. Todleben first conceived that the defender's line of fire might be developed by the use of batteries intermediate between the girdle of detached forts, protection being assured by a covered way and glacis uniting the whole circle. The heavy ordnance he would have located in the batteries, the forts being garrisoned by infantry. But his recommendations were not accepted; the heavy guns remained in the forts, which were plated with armour, this kind of protection constantly growing more expensive and complicated. Various historical examples of the advantages of masking guns are cited. At Belfort, a cavalier 21 m. high, presented a huge mark for the fire of the attacking party. A masked 24-pounder mounted on it contended against the enemy's artillery during the whole of the siege, and only ceased fire when it had become unserviceable from the number of shots discharged. Of these it had fired 5,000, having received 60,000 in return from the besiegers, who were unable to ascertain its exact position. At Plevna, we learn, the Turks usually removed their

guns from the redoubts during a bombardment, placing them in a masked position outside. The interior of a fort is compared to a gigantic "shell trap," an admirable target for the besieger's batteries and especially for his mortars. Batteries for the direct attack should therefore be stationed in the intervals between the forts, those, however, for flanking purposes in casemates within them; the former to be masked and enabled to change position when the enemy's fire becomes too hot for them to stay. Colonel Velitchko, the author of these reflections, is of opinion that detached forts should be looked upon as "pivots" for the protection of the heavy ordnance in their intervals; the forts to be connected by means of a glacis and covered way, behind which a *chaussée* or railway runs for the transfer of guns to the right or left. The glacis should be masked by plantations of trees, which should not strictly follow its outline, the batteries to be dug in the glacis or constructed 100 or 150 paces behind it. Small permanent batteries, containing at least four guns a-piece, to replace those which formerly conducted the direct attack from the forts, should be built at favourable spots, and should be provided with casemates and magazines. Disappearing gun-carriages should be used. The article is a long one; the above are the chief points urged on our attention.

THE NAVAL MANŒUVRES.—M. Weyl in the *Journal de la Marine* of the 30th August, maintains that our manœuvres of this year are a failure. He blames the Admiralty for allowing too much latitude in their instructions to the officers in command. The Board should have borne in mind that in these matters the *amour propre* of officers in command is engaged, and that everyone is resolved to succeed *quand même*. Literally to observe these instructions was to risk the chance of a resultless campaign; and we have been indulged in a spectacle of the hostile fleet vanishing into the recesses of the ocean, while Sir George Tryon contented himself with clinging to his base of operations in the chops of the Channel. Why could not sealed orders have been issued to Sir Michael Seymour enjoining a gradual approach to British waters, so as to bring him into some proximity with the defending fleet? If an encounter had taken place, that would have been instructive; if not, Sir George Tryon's measures to bring one about might have been criticized; but as things were, it was impossible for him to abandon his base, travelling an immense distance in search of the hostile squadron. With the best of goodwill he is unable to draw conclusions of any value from this sort of thing. If Sir George had sailed to Cape Finisterre the enemy

might have passed northwards, and, having gained command of the Channel, laid waste the coasts of Great Britain. M. Weyl thinks, however, that we in England have been greatly impressed with the raids executed by the torpedo-boats from Alderney; and the manœuvres have at all events proved that torpedoes are a redoubtable weapon as between two nations separated like France and England by a narrow strip of water. Increased attention should consequently be devoted to this branch of naval warfare.

M. Weyl, in his leader of the 6th ult., written after Sir Michael Seymour's return, adheres to the opinion that, although our naval manœuvres furnish interesting information, it has not been supplied by the adverse fleets, but by the torpedo flotilla stationed at Alderney. The true lesson of these manœuvres is that France and England are in a position to inflict terrible damage on each other in any future war by means of the torpedo: England by bombarding the seaboard towns of France, and interrupting the communications between the Atlantic ports and those of the Channel; France by depredations on our commercial marine, which constitutes nine-tenths of the vessels met at sea. No battle-ship would be able to anchor in security for the night in any of our southern roadsteads without erecting a species of fortification for her protection. (In another part of these "Jottings" it has been shown that the Chilian fleet, even ten years ago, when blockading Callao, were afraid to anchor.) We heartily endorse the conclusion at which M. Weyl arrives, that, seeing the state of the case, France and England should for ever remain in amity together. If, he continues, our neighbours had not conceived the happy idea of posting a flotilla at Alderney, they might write till doomsday without convincing the world that the Admiralty scheme was of any value. The only notable result is, that the heterogeneous congeries of steamers composing the hostile fleet was able to perform so long a journey without the slightest breakdown of machinery—a proof that the British Steam Reserve is maintained in a more serviceable condition than is the case in France; also, that the vessels are efficiently manned; and that, in sum, a great advance has been effected in British naval affairs. Carping spirits may point to the fact that the speed never exceeded from 8 to 10 knots; but even at that modest rate it is an ugly fact, says the writer, that too many French ships of war have sustained serious damage.

HELIGOLAND AND GERMANY.—The *Revue Militaire de l'Etranger* for the 30th of August reminds us that in 1882 it drew attention

to the attempts of certain German writers to force on the cession of Heligoland to the Empire. It is convinced that the Emperor has shrunk from no sacrifice in order to attain this end. If the island's physical conformation justify Lord Salisbury in stating that it is valueless for England, still its geographical situation, say the Germans, has for them a considerable worth. The *Allgemeine Zeitung* has recently declared that, since its acquisition, Germany may be regarded as a maritime Power. According to Admiral Werner, a French squadron could not cruise in German waters longer than seven days at a stretch without some depot where their stock of coal could be replenished. This could be managed when the island was English, and in 1870 twelve French war vessels were actually in the habit of doing so when engaged in blockading the Elbe and the Weser. The French would in any future war at once direct their efforts to its capture, with a view to creating a coal depot. It must therefore, writes the Admiral, be made impregnable with heavy batteries and a torpedo station. This, objects the *Revue*, would cost more than a great increase of the German fleet, as all building materials would have to be brought over from the mainland. Other authorities in the Fatherland resist the scheme of fortification; they assert that works could be easily demolished by the fire of first-class armour-clads; that Heligoland does not in reality command the mouths of the Elbe and Weser, and that its rôle should be restricted to that of an observatory and lighthouse station. We ourselves are inclined to this latter view of the question, and believe, in addition, that the cession of the island has conveyed more satisfaction to German national sentiment than practical advantage to national defence.

The same *Revue* also produces an abstract of Lord Wolseley's recent article in *Harper's Magazine* on the British Army, adding, that in spite of the smartness of some of its criticisms, the editor decided to reproduce them on account of the high station of their author. They are, however, in complete accord with those published by the *Revue* itself in 1889 and 1890. The conclusions it then arrived at are not in the least reversed or modified.



Naval Summary.



HERE seems to be general dissatisfaction at the result of the Manœuvres, or, it might be more correct to say, the want of results. It is not our place here to enter into any detailed criticism either of the plan of operations or of the method in which they were carried out by the two opposing Admirals. The general opinion, however, seems to be—first, that the scope and scheme of the operations were not sufficiently defined, too wide a latitude being given to Sir M. Seymour, who commanded the hostile fleet; secondly, that Sir Michael availed himself of this latitude in a manner and to an extent which was apparently neither contemplated nor intended by the authors of the scheme at the Admiralty. Although the principal daily and service journals have stigmatized the whole proceedings as a gigantic fiasco and a waste of time and money, we are not prepared to go quite so far as that, but are more inclined to accept the opinion of two such experts as Sir G. Hornby and Rear-Admiral Colomb, that lessons of real value are to be drawn from them by administrators and students, in spite of the fact that Sir M. Seymour misunderstood and did not carry out the spirit of his instructions. One thing at least has again been made clear, and that is our deficiency in cruisers. It was quite impossible for Sir G. Tryon, with the limited number of this class of vessel which he had at his command, to effectively scout for or gain touch of the enemy. Some two years hence, when the new ships now building are completed, it may be possible, if the men can be found to man them, to carry out some really valuable and practical experiments in this very necessary duty.

Another point is that, supposing the Channel fleet to be drawn away on a wildgoose chase, or from any other cause, we have at present no reserve fleet which can be depended upon for the defence of our shores. This, of course, will be remedied when the battle ships now building are ready to take the place in our offensive squadrons of ships which ought really to be ranked in these days as coast-defence vessels, not so much from lack of gun-power and their defensive qualities as from their, relatively speaking, slow speed. Again, it is evident that colliers, to be of any real use in accompanying a fleet, must be fast enough to keep up with the squadron under all conditions of wind and weather. It will probably be

found necessary to build a certain number of specially designed vessels for this work. It has been shown also that the coal-endurance of our new cruisers and battle-ships is not anything like so good as it is supposed to be from official statistics. The *Howe*, for instance, should stow 1,200 tons of coal, and, according to official data, which have hitherto been accepted, she ought to have been able to steam 7,200 miles at 10 knots; yet, after traversing something over 3,000 miles, at an average rate of 8 knots, she was forced to replenish her bunkers. The first-class cruisers, of the *Aurora* class, have also shown themselves incapable of steaming the 8,000 miles with which they are officially credited. The average consumption of these vessels for all purposes is about 45 tons a day, when steaming at 10 knots, and at this rate they cannot possibly steam more than 4,600 miles, as their coal capacity is only 850 tons. The *Forth* class, with an average consumption of 40 tons a day, have a similar range, and could not under the most favourable conditions steam 7,400 miles without re-coaling.

It is something to have learnt this much without waiting for a war to teach us, when a dependence upon what have now proved such false estimates might easily have landed us in some disaster.

The honours of the Manœuvres unquestionably rest with Commander Barry and his little squadron of torpedo-boats. The numerous attacks they made were skilfully planned and boldly carried out. Bad as the weather often was, it did not daunt them or damp their ardour; and in time of war it is not too much to say that a swarm of torpedo-boats, as well handled as these were, issuing from French ports, would render the Channel impassable for merchant vessels.

The *Marathon* is to be commissioned for service on the East Indian station, while the *Lapwing* and *Ringdove* have both also hoisted the pennant, the first-named going to the East Indies, and the latter relieving the *Swinger* in Australia.

A beginning has been made at Chatham with the *Barfleur*, one of the two new second-class battle-ships to be built under the Act of last year; she and her sister-ship the *Centurion* will have a displacement of 10,500 tons, with engines of 13,000 h.p., and as their heavy armament will consist of four 67-ton guns, they will be more powerful vessels than many of the first-class battle-ships at present afloat, and be more than their equals in point of speed and coal-endurance. These ships will be of a distinctly new type, and will combine certain modifications of the special features of the *Nile* and *Rodney* classes. The *Blonde* has completed her forced-draught trial, which was satisfactory, a speed of 16·7 being obtained. The h.p. developed, however, was only 2,755, or 300 below the contract, but the Admiralty have nevertheless accepted the machinery from the makers. The *Bellona*, sister-ship to the *Barham*, has been launched from Messrs. Hawthorne's works on the Tyne.

The first division of the Mediterranean Squadron, under the Commander-in-Chief, has been visiting Toulon, and the officers and

men have met with a most hospitable and warm reception. The visit seems to have created a very favourable impression, and has excited great interest there. The ships were thrown open to visitors, and many thousands availed themselves of the opportunity of inspecting them. It is twenty-three years since a British squadron last visited Toulon, the fleet being then commanded by Lord Clarence Paget.

Among the objections which have been strongly advanced to the employment of very heavy guns is the dependence on hydraulic machinery for loading and working. It is to be regretted that the supply of hand-loading gear has been abandoned. Experiments lately carried out in Italy with a 69-ton breech-loading gun, mounted on a disappearing carriage for coast defence, have shown that even this gun can be loaded and manœuvred entirely by hand-labour. The rate of fire would, of course, be much slower than that attained with hydraulic power, but the introduction of alternative hand-loading gear, in cases where this can be done without interfering with the efficiency of the ship under normal conditions, would give increased confidence to the crew, and might on an emergency prove extremely useful. In our earlier ships fitted with hydraulic loading machinery, hand-loading gear was also supplied, and there seems to be no reason why this should not have been continued.

The great Italian battle-ship *Sardegna* was launched at Spezia on the 22nd inst. (September). She is of 13,640 tons displacement, and 22,800 i.h.p., and is expected to attain a speed of 19 knots. Her engines will be the most powerful marine engines in the world. She is 410 feet long by 76 feet 9 inches beam, and her armament will consist of four 68-ton guns, eight 6-inch, sixteen 4·7 quick-firers, and a number of smaller quick-firing weapons, together with seven torpedo discharge-tubes. The engines of the battle-ship *Re Umberto* have been tried at Naples, and gave the vessel a speed of over 18 knots. The Italian naval manœuvres appear to have been in many ways successful, for very few accidents were reported, and these were all of a trivial nature. The squadrons employed were small, consisting only of the battle-ships *Dandolo*, *Ruggiero di Lauria* and *Duilio*, under Rear-Admiral Sambrey, for the attacking force; while that for the defence, under the Duke of Genoa, comprised the *Lepanto*, with the cruisers *Piemonte*, *Dogali*, *Monzambano*, *Montebello*, *Goito* and two divisions of sea-going torpedo-boats. The defending ships regulated their movements by the information transmitted through semaphores, and by the torpedo-boats; and the actual purpose of the operations—which was to test the utility of the semaphores on the coasts, and of their photo-electric apparatus for night signals—has been accomplished, it having been apparently shown that it is highly improbable that a hostile squadron could enter the Tyrrhenian Sea without its presence being immediately observed and signalled.

During the manœuvres experiments were made with carrier pigeons, the success of which surpassed expectation. Of 105

pigeons set free, 86 arrived immediately at Piacenza from Spezia, 6 with some delay, and only 13 were lost. The number of dispatches forwarded from the coast telegraph stations was 891, and 2,600 signals were exchanged between the defending force and the telegraph stations. The attack made on Spezia was repulsed, but the enemy are supposed to have succeeded in seizing Leghorn. Admiral Lovera di Maria acted as chief umpire, and the greatest interest has been shown by the Italian press and public generally in the operations.

From New York we learn that the new cruiser *San Francisco*, just completed at that town for the Government, has successfully passed through her steam trial, and averaged, at full power, over 19.5 knots an hour.

The first of the large belted cruisers now being constructed for the Spanish Government was successfully launched on the 30th ult., as reported in our last number. The *Infanta Maria Teresa*, as she is named, is in many respects a notable vessel, and the following detailed description of her will prove interesting. She is the largest and most heavily-armed vessel that has been built in Spain, and with her twin sister ships the *Vizcaya* and *Almirante Oquendo*, which are now under construction at the same works, was designed by the Palmer Shipbuilding Company, and has been very rapidly advanced since she was laid down last year. Preparations for building these cruisers began in the early part of the past year, on a site which at that time was little better than a wilderness, and which now has become an extensive and elaborate shipbuilding, engineering, and gun-manufacturing establishment. The work of building the vessels was fairly taken in hand about fourteen months ago, and the condition in which the vessel is seen is good evidence that the managers and men have had their heart in the work. Much, of course, yet remains to be done in the completion of the internal fittings, propelling machinery, and general equipment. Between perpendiculars she is 340 feet long, and 364 feet over all. Her extreme beam is 65 feet, and she has a displacement of 7,000 tons. She is fitted with twin-screw triple-expansion engines of the inverted vertical cylinder type. The indicated h.-p., under forced draught, is to be 15,000, and with natural draught 9,000, giving a speed of 20 and 18 knots respectively. The hull is constructed of mild steel, supplied partly from the Altos Hornos Works, Bilbao, and partly from Messrs. Duro and Co., La Filguera, Asturias. She is built on the usual cellular-bottom system, and the whole of the structural arrangements have been carefully worked out in order to meet the severe strains consequent upon her large dimensions and heavy armament. Minute sub-division of the hold space by water-tight bulkheads and decks, a cellular bottom, and an exceedingly strong and water-tight steel protective deck guarantee the maintenance of buoyancy, if she were seriously damaged by grounding, or by an enemy's attack. The system of protection is very similar to that adopted in our own *Orlando* class, but of a heavier description.

The machinery, magazines, and shell-rooms are protected by an armour belt 12 inches thick, extending 4 feet below the water-line and 18 inches above. From stem to stern extends the steel protective deck, sloped at the ends to afford better protection; it is 4 inches in thickness on the horizontal portion, increasing to 8 inches on the slopes. The deck is raised in the neighbourhood of the engine-room so as to afford space and protection to the top of the cylinders, and is here also 8 inches thick. The vessel is provided with a strong conning-tower, protected by armour 12 inches thick. She has a ram bow, the stem and horizontal ram being made of cast steel, while the hull forward is specially strengthened for ramming purposes. The ship is lighted throughout by 400 incandescent lamps, and will be fitted with three powerful search-lights, two forward and one aft. A complete system of ventilation is adopted for the ship, combining natural with artificial ventilation, the former being resorted to as far as possible.

The armament consists of two 10-inch Hontoria breech-loading guns in barbettes, which are strongly constructed and armoured with 10·5-inch armour; ten 5-inch guns carried on upper-deck, two firing right ahead as well as on the broadside, and two firing right astern in the same way, and the three amidships-pairs training from 60° before to 60° abaft the beam. Eight 6-pounder quick-firing Nordenfelts are mounted on the main-deck in a similar method to the guns on the upper-deck, while eight 3-pounder Hotchkiss are also carried on the main-deck; in addition, there will be two 3-pounders fitted in the military tops. There are eight torpedo tubes, six above, and two below water; four are fitted on the broadside, and two each at the bow and stern, these latter are fixed, but the others have a training of 80° before and abaft the beam. The whole of the armour on the belt, barbettes and conning-tower is steel faced, and supplied by Messrs. Cammel and Brown. With the exception of the armour, these ships, with their engines and guns, are being manufactured entirely from Spanish steel and materials.

The combined naval and military manœuvres in Germany off the coast of Schleswig-Holstein have come to an end. Want of space however, prevents our entering into any details in this month's summary.

Sporting Notes.

THE German Emperor and the King of Saxony will take part in the autumn red deer and chamois shooting at Neuberg-Mürzsteg.

Major Ashburner, who organized and carried out a trip from the United States to India last winter, is to repeat the experiment this year. The last result was that the party of three guns in seventy-five days shot 80 deer and 6,000 head of small game.

Wretham Hall, West Norfolk, has been let to the Baron de Hirsch. It is close to Merton Hall, which the Baron rented last season, and not far from Sandringham.

The Duke of Connaught has shot many fine stags in the Balmoral Forest this year. Several of the best heads are being preserved.

The largest bag of grouse obtained this season in a single day's shooting fell to the guns of Lord Ripon's party on the Dallowgill moors, in Yorkshire. It contained 565 brace of birds.

Black game are scarce this season—in fact, they seem to get more rare every year. Mr. H. Phillips, while stalking in the Forest of Balblair, Sutherlandshire, has killed one of the finest stags seen for years. It weighed over 24 stone, and had a splendid spread of antlers with thirteen well developed tines.

General Grogan has been having good sport at Dereen, Lord Lansdowne's beautiful place in county Kerry, of which he is tenant.

General Crealock, the veteran stalker, is having splendid sport in Glen-Doll Forest, Forfarshire, of which he is lessee.

The Fitzwilliam, Cambridgeshire, and Pytchley Hounds have commenced cub-hunting.

It is said that there are about 2,800 race-horses stabled at Newmarket; and when we reckon the heath tax of seven guineas a head, this brings in a revenue of something like £20,000 a year to the Jockey Club.

Colonel Hutton's famous herd of shorthorns at Gate Burton Hall have been disposed of. Sixty lots realised 1,531 guineas.

Lord Kenmare has let Hengrave Hall to the Dean of Ely. It is one of the most perfect examples of Elizabethan architecture in the country.

The Prince of Monaco is building a splendid yacht of 550 tons burthen, which is to be used as a floating laboratory.

During 1888-89, the number of horses purchased for the army from dealers was 1,881, and in the next year 1,653, or a total of 3,034. Of these 1,231 were purchased in the course of the two years in London, 1,011 in Dublin, 245 in Navan, 232 in Waterford, 218 in Castlenock, and smaller numbers in other places, including six mules (for mountain battery) from Italy. From breeders 46 were purchased in the former, and 81 in the latter year.

With the view of establishing a covert fund for the West Norfolk Foxhounds, with which the Prince and Princess of Wales are especially connected, their Royal Highnesses have given their patronage to a sporting exhibition to be held at King's Lynn in November. The exhibition is to consist of pictures, trophies of the chase, and general objects of interest of every kind of sport.

Reports from Ceylon state that in the lake and streams of Newara Eliya, trout up to 6 lbs. in weight now exist, and that breeding is now so universal amongst the fish, that soon they will be independent of consignments of ova from England.

A large number of trout have been destroyed in the Lake district by some fish-murdering demons. The poison used was chloride of lime.

Earl Granville is fishing for salmon trout in the tributaries of the Danube.

Lady Wilton, while barbel-fishing at her residence, The Hatch, near Windsor, has caught a bream weighing 6½ lbs. The capture of a bream is rather unusual in this part of the river. The

last killed on this reach was taken by Sir Beaumont Dixie, on July 14, 1888, and weighed 5 lbs. 7 oz.

Mr. Aston Dawes has killed a splendid trout weighing over 10 lbs., in the Hampshire Avon. It was in excellent condition and measured 2 ft. 2 in. in length and 18 in. in girth.

Mr. A. P. Humphry's successor in the Secretaryship of the National Rifle Association is Lieut.-Colonel Marsden. Mr. Humphry, however, will continue to act as executive officer at the annual meeting at Bisley.

Otter-hunting has been revived on the Tweed after a lapse of three years.

Sunningdale Park, Berks, the beautiful residence of the late Sir James Thomson Mackenzie, where he used to entertain the Prince and Princess of Wales during Ascot week, has been sold to Major W. J. Joicey.

Baron de Hirsch has re-purchased Ormonde, one of the greatest racers of all times, for £14,000.

A large number of otters have been seen around Starcross lately, and Mr. Cheriton's hounds have had brisk sport.



Reviews.

Smokeless Powder, and its Influence on Gun Construction. By J. A. LONGRIDGE. E. & F. Spon, London and New York. 1890.

The invention of smokeless powders has again called the talented author of *A Treatise on the Application of Wire to the Construction of Ordnance* to the forefront of the battle. He wishes to decide how far the new forged steel guns, which are in course of construction, are suited to the ballistic properties developed by the new powders. These properties are due to the fact that nearly the whole of the charge on explosion is converted into permanent gases, while the old charcoal powders leave a residue of inert matter which amounts to 57 per cent. This residue causes the smoke, and is probably the reason of the erosion, although, as the writer admits, this latter point is still dubious. The forged steel guns now in favour are constructed for a heavy charge of very weak powder, which burns slowly and exerts a low maximum pressure, entailing an inordinate length of bore, and the use of a capacious powder-chamber. As the new powders give far superior ballistic results, while developing a less amount of pressure per square inch, these powers may be utilized either by maintaining the present initial velocity, thus obtaining a great reduction of internal strain, or by adhering to the actual pressure of 16 tons per square inch with the advantage of an augmented initial velocity. But can this be done safely, it is asked. After a series of mathematical calculations, Mr. Longridge arrives at the conclusion that the new nitro-glycerine powders cannot be employed in the forged steel guns without incurring considerable risk, owing to the increased pressure they exert in the anterior part of the chase, and that to profit by their high ballistic powers very strong guns will be necessary, very much stronger in front of the trunnions than are the present steel ordnance. We need not add that the wire system will, in the author's estimation, fulfil all requirements.

The Presidential Armies of India. By the late Colonel S. RIVETT-CARNAC. With a Continuation and General Remarks on India by the Author of *Our Burmese Wars and Relations with Burma*, &c. &c.

This work is of interest to students of Indian affairs, principally, as implied in its title, those connected with military matters. It

is, indeed, likely to be hailed with joy by officers of the Indian army and of those regiments which, now ornamented or disguised by new titles, once formed a part of the European force at the disposal of the Old East India Company. Their history is enthusiastically recorded, and their roll of fame given with loving minuteness.

Such records of regimental prowess, always interesting and useful, are more so than ever at the present juncture, when a profound disturbance of ordinary relations between the governed and the governing classes has culminated in an attempt by unscrupulous agitators to sow the seeds of disaffection in the army itself. It will here be seen how, by a spirit of discipline and an endurance of necessary privations, as well as by individual and collective gallantry, regiments build up a history which encourages an *esprit de corps* so much to be preferred to individual self-gratulation.

In a country like Hindostan, military events have ever been so intimately bound up with the political and commercial development of the country that they have a special interest for those who have no direct connection with the military profession. Nor is this the case in India alone. Did not the soldier "scorn delights and live laborious days" to open up new fields of enterprise and new markets for industries, the artisan might toil in vain and the capitalist keep his guineas in his safe.

The reader will also learn from an attentive perusal of the history of the establishment of the British rule in India, such as is given in a short and interesting form in this work, the useful lesson that the civilian must be occasionally prepared to lay by the arts of peace and use the implements of war. In short, in the stirring words of the poet—

Who would be free, themselves must strike the blow.

Out of twelve chapters which, with notes and appendices, make up this book, only the first six chapters are due to the pen of Colonel Rivett-Carnac, and it is to be regretted that a conspicuous falling off, not so much perhaps in the matter as in the manner of the work, is perceptible at the end of this portion. We presume that this is almost bound to be the case in the continuation of a work by another hand.

The author of the larger part of the book is also the author of the preface, and he says, in relation to the first six chapters, that of them "it might be said that there are few contributions to Indian history which give so much information in so small a space; and hence the utility of this work for schools and private students may become apparent." The same recommendation might be applied to the entire work, which undoubtedly has great value. But we could have wished that more care had been taken to render the latter part equal to the first in the straightforward and manly lucidity of its style. We hope we shall be acquitted of any desire to indulge in hyper-criticism if we point out a few instances in which our author's tendency to hyperbole becomes somewhat marked.

At page 265 we find Clive represented as eager for the fray "like the worn war-horse." Somehow this does not sound quite so complimentary as no doubt it is intended to be. Then there is a very remarkable passage in an interesting description of the Parsee community in Bombay. "It is unique in every way, and to it the old Roman quotation may be gracefully applied, of wearing a thousand ornaments and in all being pleasing. It is a community of deeds, not words."

Then—but here we suspect the printer has slept—in speaking of the year 1784 our author says, or is made to say, "It is distinguished also by a change in the manner of acquiring territory, and in the conduct of our Indian armies. Hitherto the former had, though *unaccompanied* by fighting, been more upon the mercantile than the military system." No doubt the word here should be *accompanied*, as whatever may be the inherent pugnacity of the British commercial man, it can scarcely be contended that his methods are more systematically warlike than those of the soldier.

In the description of Clive's last departure from India and his death in England, we are told: "The blow had nearly been struck, and in a few years the commanding genius of Clive, chiefly from the worry of envious, ungrateful, and malignant foes, would be shattered, and the golden bowl, which for India was beyond all price, irredeemably broken." Surely bathos can no further go.

Again we learn that "England's chief hero of the time expired on the 22nd of November, 1774, in Berkeley Square, after completing his forty-ninth year. And such is fame!"

We fail to connect, satisfactorily, the last exclamation with the immediately preceding sentence. Is it because Clive died comparatively young that we are called upon to join in animadverting upon the uncertainty of fame, or is it because he died in Berkeley Square? Berkeley Square cannot at that time have been a bad place to live or die in, and heroes die at all ages. But we will not bring forward more instances of what are considered by many people but trivial faults.

We get an anecdote of an incident in General Stuart's expedition to demolish the forts of Curangooly and Wandiwash, which certainly would throw a most unpleasing light upon the English manner of making war in the East at that time. But as the sole authority for this barbarous incident appears to be a certain Hanoverian officer, and experience of the gentle methods of German critics have made us somewhat suspicious of them, we think it not improbable that the matter is rather highly coloured.

The appendices contain much valuable information as to the field operations in Burma, the composition of Indian regiments, and the services of several distinguished officers.

The utility of the work is much increased by an excellent and copious index.

Foreign Sequine Magazines.

SUMMARY OF ARTICLES.

REVUE MILITAIRE DE L'ÉTRANGER. (Paris: L. Baudoin et Cie., 30, Rue et Passage Dauphine.) 15th and 30th July 1890.

The Law of 15th July 1890, and the Peace Effectives of the German Army (*concluded*)—The Military Constitution of Roumania (*continued*)—Garrison Service in Germany—General Wolseley's Ideas on the English Army.

REVUE D'ARTILLERIE. (Paris: Berger, Levrault et Cie, 5, Rue des Beaux Arts.) July and August 1890.

Drouot (1774-1847)—Some Questions on Indirect Firing in Siege Operations—Repeating Firearms Abroad—The 60 cm. Railway at the Universal Exhibition of 1889—Field Regulations of the German Artillery.

JOURNAL DES SCIENCES MILITAIRES. (Paris: L. Baudoin et Cie., 30, Rue et Passage Dauphine.) July and August 1890.

Commissariat Tactics—The Opening-up of the Soudan—The Campaign of 1814 (*continued*)—A Revolution in Cavalry Tactics—French and Foreign Remounts—The Social Position of the Officer—Notes on the Organization of the Army.

REVUE D'INFANTERIE. (Paris: 11, Place St. André des Arts.) August 1890.

The French Army: What It is, and What It should be (*continued*)—The Training of Infantry—Notes on the Organization of the Administrative Personnel of the Army (*continued*)—Austria-Hungary in the Coming War—The Practical Training of the Field Hospital Staff.

LA FRANCE MILITAIRE. (Paris: 11, Place Saint André des Arts.) Nos. 1,893 to 1,916.

The French War Budget for 1891 (1,893)—The Manœuvres at Lunéville (1,895)—The Trans-Saharan Railway (1,896)—The Imperial German Manœuvres in Schleswig-Holstein (1,896)—The Civil Employment of Non-Commissioned Officers (1,899)—Equitation in the Territorial Army (1,903)—The History of the French Army (1,904, &c.)—The Giffard Rifle (1,906)—The Lebel Rifle (1,913)—Trials with a New Gruson Turret (1,914)—Pigeons in Warfare (1,916).

JOURNAL DE LA MARINE. LE YACHT. (Paris : 55, Rue de Château-dun.) Nos. 649-652.

The Manœuvres of the English Squadron (651)—The French Naval Manœuvres (652)—The Torpedo-Boats of 1889 (*concluded*) (652).

REVUE DE L'ARMÉE BELGE—Replacing the old REVUE MILITAIRE BELGE. (Liège : 34, Rue des Eburons.) No. 1, 1890.

The History of the Siege of Ostend (1601-1604) (*continued*)—Artillery Fire against Hidden Objects—The Modern Rifle and Its Ammunition—The Gun Question in Belgium—The *Rôle* of Cavalry on the Field of Battle.

REVUE DE CAVALERIE. (Paris : Berger, Levrault et Cie., 5, Rue des Beaux Arts.) July and August 1890.

Pajol. By General Thoumas (*continued*)—The German Cavalry (*continued*)—The Well-Trained Horse (*continued*)—Cavalry Quarters in France and Abroad—Sabre Practice—Cavalry on the March.

LE PROGRÈS MILITAIRE. (Paris : 34, Rue du Mont Thabor.) Nos. 1,020 to 1,028.

The Artillery in France and Germany (1,020)—The Future of the French Artillery (1,022)—The Manœuvres of the 18th French Corps d'Armée (1,023)—The French Manœuvres of 1890 (1,026)—Cavalry Tactics (1,026).

INTERNATIONALE REVUE UEBER DIE GESAMMTEN ARMEEN UND FLOTTEN. (Rathenow : Verlag Von Max Babenzien.) August 1890.

On the Development of Modern Naval Tactics—The Franco-German Frontier : A Geographic-Military Sketch (*concluded*)—Quick-Firing Guns—Italy's Position in Africa—The Strength of England's Colonies in Europe, Asia, Australia, and America (*concluded*)—Ballooning Tactics in Warfare (*concluded*)—The Mexican Expedition of 1862-65 (*concluded*).

JAHRBUECHER FUER DIE DEUTSCHE ARMEE UND MARINE. (Berlin : Richard Wilhelmi.) August 1890.

Cavalry Ideals—The Spring Manœuvres of the English Volunteers—Italy's Fortifications—Military Criminal Procedure.

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Russian Ideas and Proposals in Fortification—Trials with Time Fuses in Austria-Hungary—Notes on the History of Optical Telegraphy—The Dangers of Electric Lighting.

MITTHEILUNGEN AUS DEM GEBIETE DES SEEWESSENS. (Pola: Druck und Commissionsverlag von Carl Gerold's Sohn in Wien.) Nos. 6 and 7. 1890.

New Oceanic Exploration—Krupp Trials with Smokeless Powder—The New Naval Programme of Portugal—The Argentine Torpedo Gun-boat *Espora*.

ARCHIV FÜR DIE ARTILLERIE UND INGENIEUR OFFICIERE DES DEUTSCHEN REICHSHEERES. (Berlin: Ernst Siegfried Mittler und Sohn, 68-70, Kochstrasse.) July and August 1890.

The Importance of Rapid Artillery Fire in Action—The Construction of Fortresses by Germany's Neighbours.

RIVISTA MARITTIMA. (Rome: Tipografia del Senato.) September 1890.

Notes on Modern Naval Tactics—A Month in the Island of Ceylon—Smokeless Powder in France and Austria-Hungary—Carrier Pigeons in the Navy.

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The Invasion of France in 1814 (*continued*)—Present-Day Fortification (*concluded*)—Cavalry Regulations—The Supply of Ammunition to Infantry in Action—The Organization of the Landwehr in Austria-Hungary.

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Quick-Firing Guns and Field Artillery—The Use of Fortification in the Defence of States (from the French of General Brialmont)—German Field-Artillery Regulations.

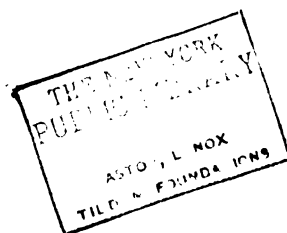
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The Proper Diet of the Soldier—Infantry Ammunition on the Battlefield—Light Artillery Target Practice—Recent Japanese Manœuvres—Infantry Fire-Tactics.

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No. 23.

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Vol. VI.

Great Commanders of Modern Times.

By WILLIAM O'CONNOR MORRIS.

VI.

MOLTKE.



FEEL it difficult to attempt a sketch which must be inadequate, and perhaps partial. Moltke is a living man, though in extreme old age; flattery and envy have obscured his real image; and his place among great commanders is still a problem. Yet, the General who triumphed in 1866-70, and whose name history links with Sadowa and Sedan, is assuredly a master of modern war; and I shall try to disengage his personality from the facts accumulated around it and still imperfectly known. Helmuth Charles von Moltke was born in 1800, a scion of a noble Danish house, of ancient descent but shattered fortunes. The family had produced more than one good soldier. It appears in the Thirty Years' War; the father of Moltke attained the rank of General in his country's service, and

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was, perhaps, an officer in the Prussian army; and one of his uncles perished amidst the wreck of the Grand Army in the retreat from Moscow. Little is known about him in early boyhood, except that he grew up under the cold shade of poverty; his first recollection was of the sack of Lübeck, where Blücher succumbed after the ruin of Jena; in his case, the strong impressions of youth were formed by the events of the gigantic strife which marked the beginning of the present century; he saw the Continent at the feet of Napoleon; he was a witness of the great rising of Germany; he may be said to have watched Leipsic, Montmirail, and Waterloo. The image of war, therefore, in its grandest aspects, and with consequences akin to a world-wide earthquake, was stamped on his mind when it was most ductile; and these associations, doubtless, had much to do with the distrust of France as the disturber of Europe, and the blended scorn and dislike of all that is French which were to be characteristic of the future warrior. Moltke became a cadet at the military school of Copenhagen at an early age; and some years afterwards, having meanwhile obtained a commission in the Prussian service, he was a pupil at the Staff College of Berlin, an institution which may be traced to Frederick, and which has always been of very high repute. The youth made his mark at both these seminaries; privation had steeled his strong nature; his intelligence was superior, and his industry intense; he had a special faculty for mastering facts, and a fine taste in Letters and Science, resembling Frederick in all these respects; and it is no mere tradition that his promise was great, when he received his first appointment on the Prussian staff. Moltke passed some years at a desk in Berlin, doing the routine duties of the War Office; and as he had fallen on the days of the Long Peace, which followed the Revolutionary and Napoleonic wars, the prospect was faint that the accomplished soldier would ever become an illustrious warrior. When he was past thirty, however, he found an opening for the display of some of his eminent parts; when travelling through the East, he attracted the notice of Sultan Mahmoud, lately engaged in the task of transforming the Turkish army; and Moltke gave him valuable advice, especially on the defence of the Dardanelles and the Bosphorus. Like Eugene and Villars, it was his fortune also to see war for the first time, as it was carried on by the arms of Islam. In company with a small party of Prussian officers, he was present at the decisive fight of Nisib, which made Mehemet Ali an independent ruler; and it has been said that he recom-

mended a movement which might have made the result of the battle different. Moltke has left a record of these experiences in a series of letters, still of value; but a history from his pen of the Russian invasion of the Ottoman Empire in 1828-29 is the most important monument of this part of his career. The book reveals the nature of the man; it wants imagination and the charm of genius; but it is thoroughly well-informed and full of good criticism; and while it does justice to the powers of Diebitsch, its peculiar characteristic is the minute attention bestowed by the writer on all that relates to the mechanism and organization of the contending armies, and to the geography of the theatre of war. The reputation of Moltke grew by degrees; in the fine words of the Roman poet, it was like the silent growth of a tree; he rose slowly to the rank of general, and he was for some time the first aide-de-camp of the Crown Prince of Prussia, the late Emperor Frederick of no inglorious memory. He made several visits of state with his chief, and has left an interesting account of all that he saw; but his mind was engrossed by what belongs to war; and it is curious to observe that he has far more praise for the steadiness and obedience of the Russian infantry than for the agility and intelligence of the French soldiery, associated in his mind with carelessness and want of discipline.

In 1857 Moltke received the office of Chief of the Staff of the Prussian army. The position was one of the highest eminence; it had been filled by distinguished men; but the names of these are of no significance compared to that of the renowned soldier who has made it famous in all lands. Moltke was in his fifty-eighth year when he was raised to the post; he had never commanded troops in the field, nay, had taken no part in European warfare; and yet he possessed qualities which made his selection for the place a great day in Prussian history, for scarcely a living man so thoroughly understood what were to be the true conditions of war in our time, what its characteristics, and its coming development. We shall perceive this better if we glance at the state of the art during the long period of almost unbroken peace which succeeded Waterloo. For more than thirty years after 1815, every Power in Europe felt the exhaustion caused by the gigantic strife at the first part of the century; and though "the war drum was not hushed," in the poet's language, their energies were mainly directed to the great problems, political and social, which had come into question. In this state of affairs they generally reduced their armies; what was more important, they took little heed of all that concerns the

military art, and their war offices were, without exception, directed by men whose minds had been formed on the battle-fields of the preceding age. When the Revolution of 1848 passed over the Continent, the Russian army was far the most powerful in Europe; the armies of France, of Austria, of Prussia, of England, had largely declined from their old standards; and the great names of Wellington, of Soult, of Paskiévitch, were typical of the system of unchanging routine, which, in every service, prevailed in high places. This strong conservatism was not much shaken by the memorable events of the next few years. The military operations of 1848-49 resembled those of 1805-14, except that they displayed less genius; and even the experience of the Crimean War did not produce a wide-spread conviction that a new era in the art was about to open. Nevertheless, throughout those long years since the Peace, forces of all kinds had been steadily at work, which were to affect greatly the phenomena of war, and if not to change the essential truths it teaches, to modify it profoundly in some of its aspects. The population of every State had continued to increase, especially in Central and Eastern Europe; and the rude material, therefore, of military power had been augmented, and was still growing. The resources of most nations had been doubled and trebled; agriculture had made enormous strides; roads and communications had become more numerous; and while this progress, dating from centuries before, had been going on with accelerated speed, a new element of mighty force had appeared in the railway system, which, spreading over Europe, had made the means of transport and of locomotion infinitely more easy, more vast, and more rapid than ever had been known before in history. Though the truth had not dawned on ordinary minds, it had become certain, thirty years ago, that in any great European contest armies would be larger than they had ever been; and the facilities of moving huge bodies of troops, and of munitions and supplies on a prodigious scale, it is now perceived, were to have these results; that the efficacy of fortresses was still further to decline, and that military operations might be more ample, have more celerity, and be more decisive than had been the case even in the age of Napoleon. Other influences, too, had made themselves felt, to be attended with great results in war. The age was one of material inventions; the weapons of destruction used by armies had been almost transformed within a brief period; and appliances of a different kind had, to a certain extent, been turned to account. Rifled cannon and the breech-loading musket had been

manufactured and partly employed; these mechanical improvements, it is now apparent, have necessarily led to changed formations and tactics; and the discovery of the field telegraph has, in some measure perhaps, affected strategy. Education, moreover, after the Peace had been generally diffused through Europe, especially in Prussia and Northern Germany; this had greatly increased the self-reliance and the intelligence of the individual soldier; and the result, we can now see, has had a potent influence in the conduct of armies and the arrangements of war.

It was the distinctive merit, I have said, of Moltke, that he appreciated these facts, and all that resulted from them, with perfect judgment and the most sagacious insight. He was deeply versed in the history of war; like every true student of it, he had seen that Napoleon was, by many degrees, the first of captains, and he had the capacity to perceive that the new conditions, especially the development of the railway system, favoured the grand and daring Napoleonic strategy. He grasped the truth, too, that the immense size of the armies in coming European conflicts would lead to more independence in separate commands, and would require a larger number of able chiefs than ever had been the case before; and he saw that preparation was more than ever necessary, the operations of modern war being so quick and decisive. The superiority of a rapid and bold offensive, the advantage of the diffusion of skill in the high ranks of an army, and the value of careful organization and well-planned arrangement, formed, so to speak, his military faith; and, coming to other details, he distinctly declared that the new arms would make the efficacy of fire the greatest element of success, that the importance of mere charges would largely decline, that formations in the field would become more flexible, and less dense than they had been formerly, and that real culture and mental training made a man an infinitely better soldier. Moltke impressed these principles, which thirty years ago were not generally accepted or understood, on the Prussian army from the first moment, and with what results is now well known. The first great event in this part of his life was the reorganization of the military strength of Prussia, a reform completed in 1860. This vast work was probably due more to the king and Roon than to anyone else; but Moltke, we may be sure, approved of the measures by which the numbers of the army were largely increased and its real efficiency was, perhaps, quadrupled. The new arrangements did not change the bases on which the military power of Prussia rested, the general duty of the subject to serve, and the

organization of the army on the local system ; but the yearly contingent of recruits was augmented a third, the time for service in the reserve was doubled, and the army, which had become too like a militia by a large admixture of landwehr, was made a completely distinct force, the landwehr forming only its last reserve. The hand of Moltke may be distinctly seen in almost every improvement thenceforward made in this great force, composed, after 1860, of fully half a million of trained fighting-men. Holding fast to the principle that offensive strategy would more than ever succeed in modern war, he directed his efforts to have the Prussian army ready to take the field as quickly as possible, and to be prepared to attack at once ; with this object in view, the local arrangement of the national forces was steadily retained, for it assured the rapid assembly of masses of troops ; but it was subjected to minute and careful central direction ; and elaborate preparations of all kinds were made to secure speedy "mobilization," and the regular transport of whatever is required for the conduct of a campaign by turning railways and other communications to account. Another great object of Moltke was to provide for general efficiency through all commands, from the highest down to the lowest grades. He had excellent materials for this at hand, in the practised officers who abound in Prussia ; and steadily applying himself to his task, he succeeded by degrees in placing the army under the control of capable men, from top to bottom, producing in this way that hierarchy of good leaders which Thucydides declared, two thousand years ago, was one of the secrets of Spartan success ; and creating that division of skilful labour which has become a necessity in modern war. Moltke addressed himself, also, to the reforms in tactics which he had foreseen were to be essential ; but here his exertions were less successful ; he was steadily obstructed by routine and tradition ; his own views, probably, were not fully formed, and years were to elapse before the Prussian army was to attain its present excellence in this sphere of the art. The greatest reform, however, effected by Moltke remains to be stated, and had immense results. The Prussian Staff stood high since the days of Frederick ; but under the care of its greatest chief, it gradually reached a state of extreme perfection. Divided mainly into two branches, it supplied the commanders of corps with able advisers, trained in strategy, in tactics, in the direction of troops, and in providing for their needs in the field ; and it has accumulated stores of knowledge in all that refers to military history, to the geography of war, to the resources and



MOLTKE AND HIS MASTER.

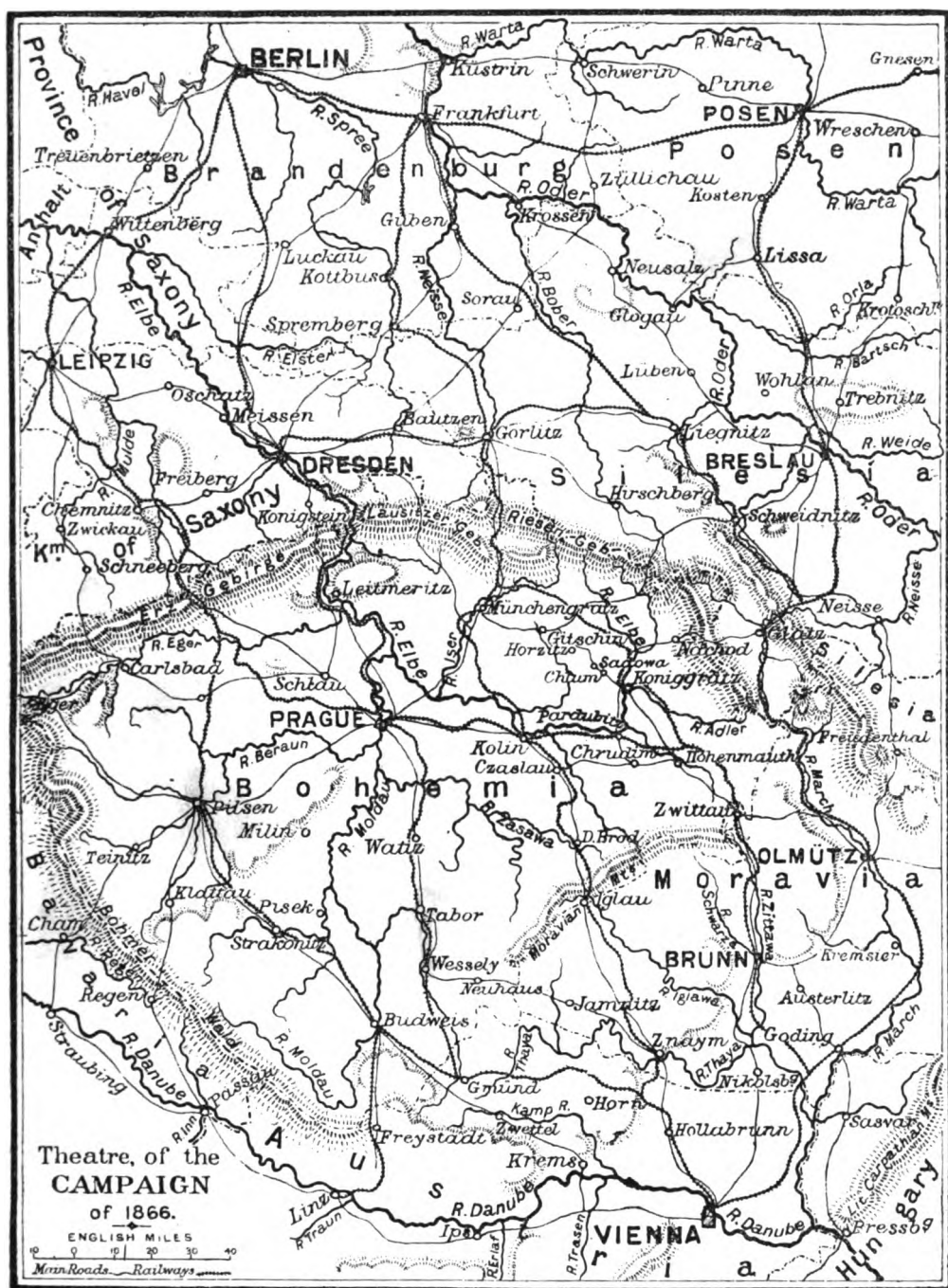
armies of civilized states, which have proved to be of the greatest practical value. Moltke, it should be added, like all true leaders, inspired the army generally with his high aims and spirit; he encouraged the mental training of soldiers and officers, but he paid special attention to order, discipline, and to everything that secures obedience to command.

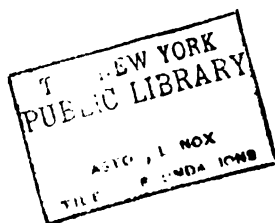
Moltke could never have accomplished these tasks had he not had the all-powerful support of the King, a really able and far-sighted ruler, and a soldier of no ordinary gifts. Within seven years from the time when he was raised to his post, the Prussian army, which since 1848 had fallen low in universal repute, had, under Moltke's care, become, we know now, unquestionably the first of European armies, as superior to those of every other State as the army of Frederick was to the armies of his day. The time was at hand when the strength and worth of this mighty instrument was to be proved in the field. I pass over the petty Danish war, and proceed to the great conflict of 1866, fought with memorable and lasting results for the Continent. Prussia instantly took a bold offensive attitude, and the celerity with which her main forces were "mobilized" and directed towards the Bohemian frontier, with every requirement to begin a campaign, surprised all who understood the subject. The invasion, too, of the Northern German States was admirably planned and well carried out; and the ability with which a small Prussian army held in check and baffled the whole of South Germany remains a specimen of fine generalship. The distribution, however, of the principal army on the theatre of war to oppose Austria can be praised by the courtiers of fortune only, and is certainly open to grave objections.

On the 15th of June 1866 this huge array, about 250,000 strong, and divided into three great masses, was disseminated along an immense front, extending from the Elbe almost to the Oder, and not far from the main Bohemian range; the right, the Army of the Elbe, being near Torgau, the centre, or First Army, being around Sorau, the Second Army, the left, holding the tract round Neisse. At this moment the chief Austrian army, nearly equal in numbers, reckoning its Saxon allies, was in Moravia, spreading about Olmütz; it held a central position between scattered foes, and it is now acknowledged that it was ready to advance, and could have assumed a decided offensive. It is vain to deny that in this state of affairs it already possessed an immense advantage; and, whatever the cause, the Prussian strategy which gave it this grand chance must be deemed faulty. All the apologies that have been

made on this subject will not mislead the true student of war. It has been urged that the dislocation of the Prussian armies was necessary "to cover Berlin and Breslau"; but this argument is of no avail. You should never risk a whole army for such objects, and if you try to defend everything, you run all hazards. It has been said, again, that it was not possible to assemble the Prussian forces in any other way, regard being had to the lines of railways; but that is no reason why the three armies should have been distant from each other near the Bohemian frontier. Lastly, it has been alleged that the superior quality of the Prussian troops, if considered, excuses their chiefs; but this superiority had yet to be proved; and any operation, however defective, may be justified by this kind of reasoning. The examples set by really great captains show what Benedek—a good soldier, but unfit to command a large army—might have accomplished at this conjuncture. Napoleon, in the place of the Austrian chief, would have made for the salient of the Bohemian hills—would have debouched through the passes into the Saxon plains, and holding the army of the Elbe by a detachment in check, would have fallen in superior force on the First Army, and then would have turned victoriously against the Second Army, which, thrown forward into Upper Silesia, might have been cut off from its base and destroyed. Turenne, less daring but more safe, would have advanced to the southern verge of the Bohemian range, and, occupying the position he always sought to gain, would have invited the attack of his divided enemies, and interposing between them would have beaten them in detail. In either case, the Prussians should have been defeated; and, indeed, why they were placed in this way on the theatre has never yet been really explained.

On the 16th of June the Army of the Elbe entered Saxony, and had soon seized Dresden; and about the 20th it had nearly joined hands with the First Army which, under Prince Frederick Charles, had been moved close to the Bohemian frontier. The Prussian right and centre were thus almost united; but the left, commanded by the Crown Prince, which had advanced from Neisse towards the passes near Glatz, was isolated from its supports, and at a great distance; and if the invaders were not in immediate danger—for Benedek had only begun to move—their strategic position remained critical. In this situation the Prussian armies, now practically two, not three masses, were directed to pass through the range, and, approaching each other, to effect their junction around Gitschin, a point considerably to the south of the hills, not





far from where Benedek had some troops, and where he might have had five-sixths of his army. This strategy was exactly the same in kind as that which had proved fatal in 1796, when attempted against the chief of Rivoli; and the excuses that have been made for it are weak and baseless. Two large armies, such as those of Prussia were, though far from each other, are no doubt in less peril if they invite the attack of a single army equal to both in strength, than two small armies would be under like conditions, and this would specially be the case where, as in the present instance, the field of manœuvre was somewhat contracted. All this, however, proves no more than that the converging movement of 1866 was less to be blamed than that of Würmser; it does not show that it can be justified, and the experience of ages clearly condemns it. Benedek, who broke up from Olmütz on the 17th of June, might have reached Gitschin with the mass of his forces before the Prussian armies could have come into line; and in that event he would have had at least an opportunity to fall on his divided enemies, and to achieve success, more or less important. Unfortunately for himself, however, the Austrian chief was unable to seize the occasion before him; instead of turning his central position to account, and advancing northward with all his corps in hand, he adopted half-measures of extreme feebleness. He sent a detachment only, comparatively small, to hold the Prussian right and centre in check. He struck at the Prussian left with inferior forces, and he hung back himself with the mass of his army, irresolute, hesitating, and, at best, inactive. The result was what might have been expected. Clam Gallas and the Saxon contingent were overpowered by Prince Frederick Charles, who attacked with largely superior forces; the Crown Prince, as he emerged from the defiles, defeated with ease the three hostile corps opposed to his much more powerful army, and though the issue was partly due to the excellence of the Prussian infantry, and to the efficacy of the arms they wielded, it is chiefly to be ascribed to the grave faults and the shortcomings of the Austrian leader. The victorious armies, though still far apart, now advanced along the heads of the Iser and the Elbe. The Austrians, beaten and demoralized, slowly fell back; and yet such was the inherent advantage of the central position still held by Benedek, that had he known how to make a true use of it he might even yet have turned the tide of ill-fortune. By the 29th of June he had his army nearly united; the two Prussian armies were leagues from each other, and part of the First Army was dangerously exposed; and it has been justly remarked that

had Benedek boldly attacked Prince Frederick Charles on this day, he ought to have won a real victory, and, in that event, he would still have had a chance to strike and defeat the Crown Prince of Prussia. As is well known, however, the ill-fated chief did not attempt an offensive return, and continued his retreat until he had passed the Bistritz; here, like Daun, he took a position of defence, and he passively awaited the onset of his foes, anticipating already impending ruin. Yet even at this moment, had he been a general of a high order, he might perhaps have triumphed. I have no space to describe the great day of Sadowa; it was, no doubt, a splendid and decisive victory; but the operations of the Prussians once more gave their enemy an advantage which he might have seized, and turned to account with immense results. The First and Second Armies remained still divided; for many hours on that eventful forenoon, an almost insignificant force was opposed to the mass of the Austrian army; and it was only when the Crown Prince reached the field, at about 2 p.m., and was able to attack, that the chances of the battle became equal, and that success was made even possible. Had Benedek at any previous moment fallen in full force on Prince Frederick Charles, it is difficult to suppose that the Austrian chief might not have, at least, averted defeat.

The campaign of Sadowa is a striking instance how generals who steadily carry out ably a plan essentially faulty in itself may defeat a commander who waits on his foe, and cannot take the initiative or seize the occasion. In justice, however, to a departed veteran, let us say that the Prussian army was, in most respects, very superior to that arrayed against it; the Austrian army was crowded with discontented levies; the Prussians, too, possessed a breech-loading rifle, the fire of which had great effect, though it is idle to contend that it decided the war; and these facts told in the final issue. As for the Prussian strategy, it was not good. We can imagine the shades of Turenne and Napoleon indignant that a violation of their art should have been followed by ill-deserved success; and if Moltke really directed these operations of 1866, his first essays in war are not admirable. The movements, however, which led to Sadowa are almost identical with those of Frederick in Bohemia in 1756-57; and I cannot help conjecturing that King William—his reverence for his ancestor was a kind of worship—was in a great measure their true author, though those of Frederick have been condemned by Napoleon with no uncertain censure.

After the events of 1866, it became apparent that Prussia and

France would ere long quarrel; and I must say a word on the preparations made by the two Powers before the impending conflict, and on their military resources when it at last broke out. Northern Germany was practically added to Prussia; treaties were made with the Southern German States; the unity of Germany for war was well-nigh accomplished; and the German armies which could be brought into the field, more or less organized on the Prussian model, reached the enormous number of a million of men, 500,000 forming the first fighting line. Extraordinary attention, moreover, was given to the improvement of the instrument of war which had crushed the power of Austria in three weeks, and to the removal of every defect which had been discovered in it. The "mobilization" was made more effective; the experience of 1866 was turned to account to make the evolutions of foot more quick and exact, and to adapt infantry tactics to modern arms. Great pains were taken to reform the cavalry, which had been scarcely equal to the fine squadrons of Austria, led by the brilliant Edelsheim, and to give it celerity and strength in the field; and the artillery, it may be said, was transformed, old smooth-bore guns being finally condemned, and artillery tactics being greatly changed by abandoning the system of huge reserves of guns—a tradition of the Napoleonic era, but obsolete under the new conditions of war—and by directing every battery that could be made available as quickly as possible to the front of battle. By these means the Prussian army of 1866 was expanded into the vast German army which overran France from the Rhine to the Loire; and the hosts which triumphed at Metz and Sedan were infinitely more formidable in all respects than that which had overwhelmed Benedek.

Let us now turn to the attitude of France, in view of the contest known to be imminent. Napoleon III. and one or two French chiefs had not failed to observe the immense increase of the military power of Prussia and Germany; and they perceived how enormous was the importance of the great trained reserve of the German system, which had nothing corresponding to it in their own. The Emperor and Marshal Niel accordingly proposed that the nominal reserves of the French army—masses of men on paper—should be in some degree disciplined, and that the Garde Mobile, a new force, should be formed; and had this been effected the military power of France would have been largely augmented, though it would have been still very inferior to that of Germany. Tradition and faction, however, prevailed; a reform, of which

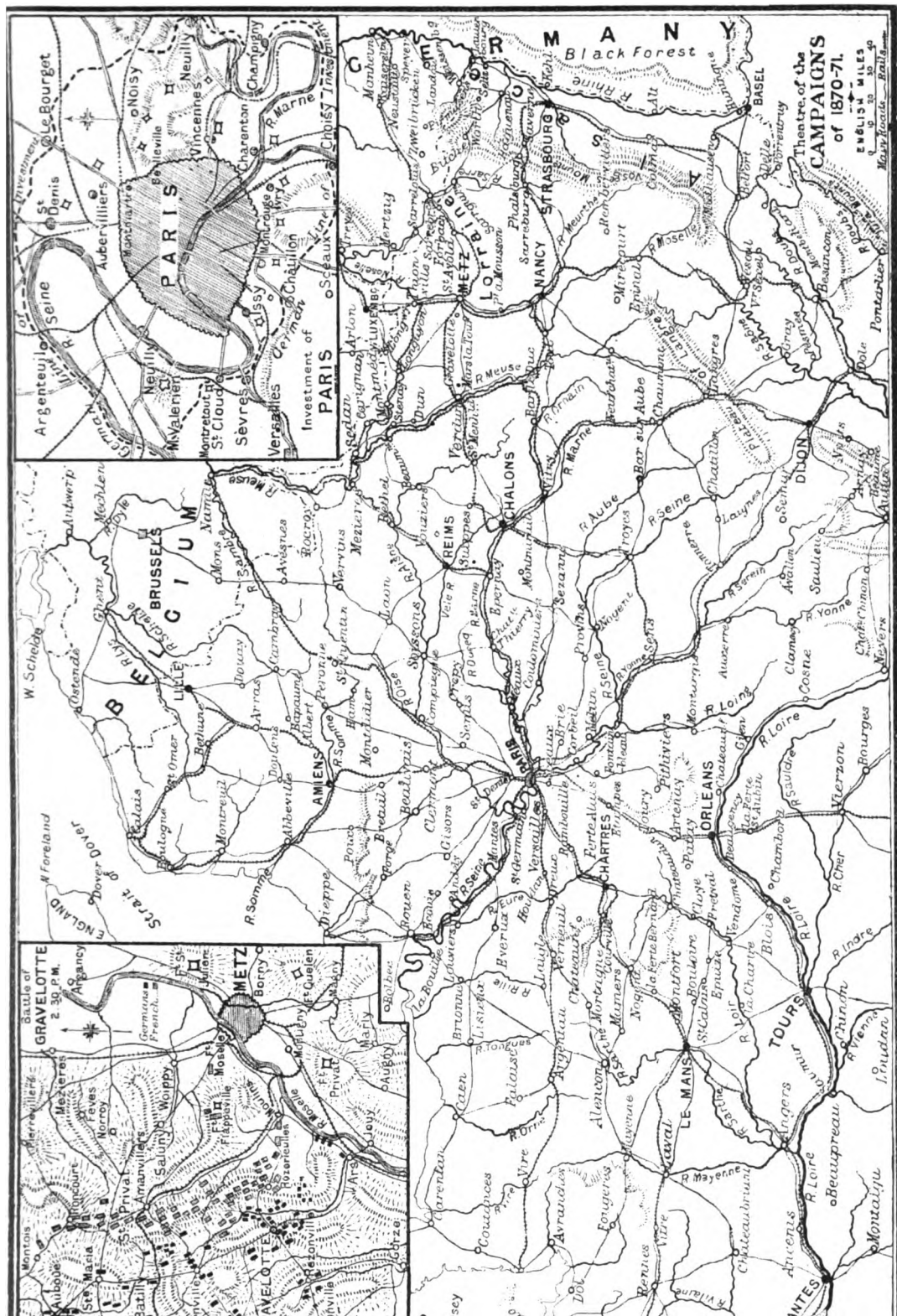
Napoleon had laid down the lines at St. Helena fifty years before, was disregarded and not carried out; and the strength of France for war was left as it was, that is, miserably weak compared to that of Germany. This difference was in itself immense, but there were other differences of perhaps equal moment. France was not prepared for a great modern war; her military organization was out of joint; she had not had a good Minister of War since Soult; her chiefs, formed for the most part in Africa, had little strategic or scientific knowledge; she had nothing resembling the Prussian Staff, the brain of the army, as it has well been called; she had not in her service the perfect gradation of united commands which was one secret of the success of Prussia in 1866. Her whole military hierarchy, and all that depends on it was, therefore, in far from a good state; her chiefs had no settled convictions in war, and were divided upon the great question whether the offensive or defensive was the better strategy; and, besides that it was weak and without a real reserve, the condition of her army was very defective. It was, no doubt, a fine professional army; but it had been injured by the system of commuting service; it had many bad and worn-out soldiers; it had not been practised in manœuvres in the field; it had not anything like fixed rules of tactics; and though its infantry possessed an excellent rifle, much better than the needle-gun of Prussia, and its cavalry was a noble arm, its artillery was very inferior to that of the Germans. The most marked distinction, however, between the two nations in their capacity for a campaign has yet to be noted. The railway system of Germany was designed for war; that of France was formed on no such principle; the local system of Prussia made it quite certain that the German army would be placed in the field more quickly than that of France could be under her centralized and ill-arranged system; and these two circumstances, little perceived at the time, were of extreme if not of decisive importance.

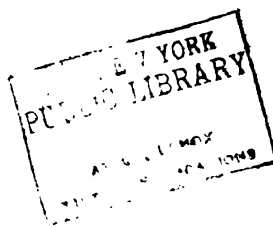
The general result of this state of things was that Germany could "mobilize" and send into the field half a million of men, backed by enormous reserves, well organized, disciplined, trained, and commanded, within three weeks after a declaration of war; that France could hardly assemble three hundred thousand soldiers, unsupported by any valid reserve, ill-prepared, and under inefficient chiefs; and that, in point of time, she would be far behind her enemy. There was no comparison, therefore, between the two powers, and France had scarcely a chance of success, though if her

military strength had been well directed, she need never have signed the Treaty of Frankfort. The conflict began in July 1870. Napoleon III., the mere shadow of a mighty name, assumed the command of the French armies, and his plan was to advance from behind Metz and Strasbourg, to cross the Rhine between Spire and Landau, and to interpose between the South and North German forces, which, it was assumed, would not be ready in time, and divided. The project, the Emperor has told us himself, was founded on that of his uncle in 1815; but Moltke had foreseen and provided against it, and it is useless to examine a mere scheme on paper, which was no sooner conceived than it proved abortive. Napoleon III. calculated that he would have 250,000 men round Metz and Strasbourg ready to march, with 50,000 in immediate reserve; but he had little administrative power or resource; the existing system of France proved inefficient; her organization for war broke down, the "mobilization" of her troops was slow and partial, and when the Emperor reached Metz in the third week of July, he had not assembled 200,000 soldiers, and these were hardly in a state to take the field. This was very different from that prodigy of skill, the concentration on the Sambre before Waterloo; and in these circumstances, the unhappy sovereign ought to have renounced a hopeless offensive, and to have placed his army on the line of the Moselle, in order to defend the Vosges and the Alsace, a course which Moltke believed he would take. But the Emperor thought he had no choice. He was goaded on by opinion in France; the folly of allowing politics to master strategy, one main cause of the disasters that followed, had already begun to produce its results; and he advanced to the frontier with forces, compared to those of the Germans, pitifully weak, and but ill-provided with all kinds of requirements. When he had attained Alsace and the Sarre he paused, afraid to strike, but he felt that he was not in nearly sufficient strength, and, waiting on his enemy, he allowed his army to be disseminated upon a vast arc, extending from Thionville to the gap of Belfort, and dangerously exposed along its front. The conduct of Germany and of the German chiefs contrasted most strikingly with this exhibition of maladministration, feebleness, and incapacity for war. The contest, Frenchmen thought, was a mere affair of "glory"; in Germany it caused a great national rising for unity and independence, and to avenge Jena. The Teutonic race sprang fiercely to arms; the feuds between North and South Germany ceased; the orders for the "mobilization" of the German armies were carried out with wonderful skill and pre-

cision, and more than 800,000 men, with great reserves behind, were in a few days arrayed on the frontier, an astonishing result of patriotism and organization for war, partly due to a well-planned railway system. Three great armies were now quickly formed. This time Moltke certainly had the general direction of operations in the field, and he instantly assumed a determined offensive. The situation dictated his plan; there was nothing original in it, as has been said by flatterers. In fact, it was that of Marlborough in 1705, and it had been actually laid down by Gneisenau; it consisted, simply, in invading France from the Palatinate, along her most exposed frontier, but it was executed in the main ably, and with conspicuous forethought and vigour. The First Army, led by the veteran Steinmetz, advanced from Treves towards the Lower Sarre; the Second, under Prince Frederick Charles, moved from Mayence through the German Vosges; and the Third, commanded by the Crown Prince of Prussia, marched across the Rhine and attained the Lauter, the three masses acting well in concert. The poor affair of Sarrebruck only quickened the movement; and, in the first week of August, a great tempest of war burst over the verge of Lorraine and Alsace. The first efforts of the Germans were, no doubt, premature; Frossard might have gained some success at Spicheren had he been seconded by the corps in his rear, and the impatience of the invaders, and of one or two of their chiefs, precipitated the well-fought battle of Wörth. Moltke, however, is not to be blamed for this; he was far away from those scenes of action, and his strategy completely attained his object, though his subordinates made more than one mistake. As for Wörth, it does honour to the arms of France; on that day 45,000 Frenchmen held double their number, for hours, at bay; and the issue might have been very different had De Failly come into line, as was possible. Macmahon, however, a soldier but no chief, cannot escape blame for not having drawn off his troops while retreat was still open and safe, especially when the great superiority of the enemy in force and in artillery had become clearly manifest.

Spicheren shattered the front of the French army—it had been named the Army of the Rhine; and Wörth forced its right wing in confusion and rout far to the south, in eccentric retreat, laying bare the defeated centre and left. Napoleon III. fell back with his beaten forces; and the next few days, big with the fate of France, witnessed a wretched succession of divided counsels. It was proposed to attempt a stand on the Nied, in Lorraine, to join





MacMahon, or to call him up to Metz; but all that was done was to retreat on the fortress, to cause a weak reserve to advance from Châlons, and to impair the moral worth of the French soldiery, when ill-led, never great in misfortune. Meanwhile, the hosts of the invaders, largely reinforced, were moving slowly through the passes of the Vosges; the First and Second Armies filling the tracts between the Sarre, the Nied, and the Seille, the Third Army far to the south, round Nancy; and, whatever may be said, ample time was given to their enemy to make good a retreat westward. This movement was not arranged until the 12th of August, a precious week having been thrown away; and the Emperor handed over his command to Bazaine, a chief, whose antecedents had, at best, been doubtful, with a general direction to fall back on the Meuse. Moltke's plan of operations became now developed; the First Army was moved towards Metz, in order to detain the retreating enemy; part of the Second Army was pushed across the Moselle, its march screened with remarkable skill; and the Third Army made a step westward, the object being to force the Army of the Rhine into the north of France, and to cut it off from Paris.

Steinmetz attacked Bazaine on the 14th of August. The battle was stern and well contested; but it kept the French back for a whole day, and it facilitated, as was intended, the forward movement of the Second and Third Armies, which was Moltke's object. A great mistake, however, was here made; the German chief believed that the Army of the Rhine was already far to the north of Metz; but Bazaine was moving directly westward, and on the evening of the 15th he had his whole army, at least 140,000 strong, concentrated along the roads that lead from Metz to Verdun, by Mars La Tour and Etain. One German corps only was on the spot; Prince Frederick Charles, no doubt unaware of the immense superiority of his enemy in force, attacked on the morning of the 16th; and had Bazaine had any skill in war, he ought to have swept his assailant from his path. The Marshal, however, could not handle an army; he kept the Imperial Guard inactive near Metz, he made little use of two of his corps; the hard pressed Germans were reinforced by degrees; a magnificent effort of the German cavalry had a marked effect on the fortunes of the day; and evening fell on a scene of carnage, in which neither side could lay a claim to victory. The result proved the ascendancy won by the Germans, and was for them a splendid passage of arms; but the effects of Moltke's error were not yet got over—it was like that

of Napoleon before Auerstadt—for, as I have remarked, the campaign of 1870 resembles that of Jena in many respects; he had not 80,000 men in hand, and Bazaine had still a strategic advantage, from which a real chief would have at least plucked safety. As Prince Frederick Charles has said, he should have attacked on the 17th; and in that event he ought to have won a battle, or, at all events, have made good his way to Verdun, a result which would have given a new turn to the war. A much grander game, however, was open to him; and a German commentator—Moltke, I suspect—has remarked that Napoleon would have played it, and have perhaps gained important success. On this day, a decisive moment in the campaign, the First Army was still east of Metz; the Second Army was partly west of the Moselle; the Third Army was leagues away to the south; and the communications of the invaders would be dangerously exposed, could an enemy descend from Metz on Nancy. Had Bazaine, therefore, fallen back on the fortress, and issued from it in force on the 18th, advancing between the Moselle and the Seille, he ought to have been able to seize and hold the line of operations of the hostile armies, and the consequences must have been very great. He might have stopped the invasion, perhaps for weeks; he would have certainly saved himself and his army, and the situation would have been wholly changed.

Unhappily for France, she had not a captain who could seize the one great occasion given by Fortune in the first part of the war of 1870-71. Bazaine, a soldier fit to command a division, but utterly unable to direct large masses, had experience of the power of modern arms, and he had a fixed belief that mere defensive tactics were the means to assure success in battle. He resolved, therefore, to stand and to fight; and he arranged his forces, still 120,000 strong, along a range of uplands, from near Metz on the left to St. Privat and Roncourt on the right, which formed a fine position for a passive defence, the system on which the Marshal relied. Moltke, on the 17th, drew together the greater part of the First and Second Armies across the Moselle; the huge masses, probably 210,000 men, were west of Metz on the morning of the 18th, intercepting a retreat to the Meuse and Verdun; but, strange as it may appear, the German commander was still ill-informed of his enemy's movements; he believed that Bazaine was falling back northwards, and when he discovered where the French were, he was convinced, for some hours, that the positions did not extend nearly as far as Roncourt. This and

other mistakes dispose of the theory that Moltke is a kind of Providence on the field, gravely asserted by certain worshippers of success, and tend to show that German reconnoitring may be less perfect than has been said : but fools only can claim omniscience for chiefs ; and, in fact, under the new conditions of war, with its vast operations and its immense battles, the ablest captains will fall into error more frequently than has been the case formerly. Partly owing to the miscalculations of the German leader, and partly to tactics essentially false, the tremendous battle of the 18th of August—known to history by the name of Gravelotte—was undecided up to the last moment, large as was the superiority of Moltke's forces. The assailants, thinking they were turning the French right, fell in front on the centre strongly entrenched, and failed to make the slightest impression on it ; Steinmetz, on the German right, made repeated charges, in the close columns of the days of his youth, and the First Army suffered enormous losses. The Prussian Guard, too, were cruelly stricken in an attempt to carry St. Privat by storm ; indeed, until near nightfall, the Army of the Rhine had a marked advantage along the whole line of battle ; and had it been able to make a grand counter-attack, especially when the right of its foe was shattered, it not improbably would have achieved success. At last, however, the inherent vices of a passive defence became manifest ; the German chiefs, given the offensive all through, and allowed to search the positions of the French everywhere, brought their masses to bear against the extreme French right ; Roncourt was carried by a great turning movement ; the whole position became untenable, and the French army gradually fell back on Metz. Yet no doubt can now exist that had Bazaine been a capable chief on that terrible day, the battle would have been at least drawn, inferior as were his troops in numbers, and, in some degree, disheartened by defeat. Had the Imperial Guard, as was quite possible, been moved to the aid of the French right, the last effort of the Germans must have failed ; and in that event the contending armies would have retained their places on the field unchanged. The Marshal, however, unequal to his task, and thinking only of merely holding his ground, kept this noble reserve near Metz unengaged ; and 20,000 men were left out of the struggle who could have turned the balance in the scales of Fortune. Gravelotte, in truth, is a notable instance how a resolute offensive, even though ill-conducted, may, notwithstanding the arms of the age, prevail over passive tactics of defence ; the attack on the French right, made at the

last moment, after many mistakes, gained decisive success; and all the efforts of an army which had not the means to attempt at any time a counter-attack, and simply waited in position on its foes, proved ultimately fruitless, though for hours hopeful. The battle, the student of war will note, has a strong resemblance to that of Malplaquet; but the operations of the Germans are not to be compared in skill to those of Marlborough and Eugene; and the tricolour was defended by a very different chief from the illustrious warrior who upheld the lilies.

Within two or three days after Gravelotte, the German armies had closed around Metz and the army of Bazaine, which had clung to the fortress. The left wing and centre of the whole French army were thus, so to speak, removed from the theatre, at least for active operations in the field; and, notwithstanding mistakes and shortcomings, the plan of Moltke, if not realised, had been attended with more than expected success. The right wing, half destroyed at Wörth, remained, and we turn to the movements of this force, on which the fortune of France for the time depended. Macmahon had been joined by De Faily and his troops, by the corps which had been placed at Belfort, and by a new corps despatched from the capital; and by the 20th of August the collected array, numbering from 120,000 to 130,000 men, was assembled around the great camp of Châlons. The Marshal was in supreme command; he properly resolved to keep the only army now left to France to defend Paris; but as Bazaine conceivably might be not distant, he marched on the 21st to Rheims, holding a position on the flank of the German invasion, and in the hope that his brother chief might approach, but with the determination to fall back on the capital. This was in conformity with the principles of war; and had Macmahon kept firm to his purpose, the catastrophe that followed would not have happened, and France would not have mourned for the extreme of disaster. Unfortunately, however, the Duke of Magenta, a hero in the field but a weak man—the character is by no means uncommon—was led astray by pernicious counsels; Palikao, a new Minister of War, whose chief thought was for the tottering Empire, and to satisfy the desires of Paris, insisted that Metz must be relieved; and he urged Macmahon to advance to the Meuse, to slip outside the flank of the hostile armies, and descending from Montmédy on the beleaguered fortresses, to join hands with and to extricate Bazaine, and to strike stroke for a decisive victory. In an evil hour for France elf, the marshal gave ear to a fatal project, as reckless as

ever was made in war ; for the march to the Meuse, and thence as far as Metz, would be a flank march of the most hazardous kind, the enemy holding the chord of the arc ; it would be a march perilously near the Belgian frontier, where a lost battle would mean ruin ; it was a march to be made by an enfeebled army in the midst of the victorious Germans, threefold in numbers ; above all, it was a march which would draw away from Paris, the centre and vital point of the national defence, the only organized force that remained to protect it. Macmahon, it is said, was still doubting—he knew that the course proposed was insensate, not strategy, but the throw of a gambler—when an ambiguous message sent by Bazaine, and implying that he was on his way from Metz northwards, at last caused the luckless commander to yield. Once more the plainest military rules were sacrificed to political ends ; and once more Bellona, who brooks no rival, was, so to speak, challenged and wildly provoked. The army of Châlons broke up from Rheims on the 23rd, and it was on the Upper Aisne on the 25th, approaching the region of defiles and forests, which extends from the Ardennes to the Meuse. Macmahon spared no effort to make the movement rapid, for celerity he knew was his only chance ; but the march of his army became slow, and by the 27th it was still far from the Meuse, in the tract between Tourteron, Le Chêne, and Buzancy. It had already begun to show signs of weakness ; it was ill-provided and badly organized ; the soldiers were discontented and ill-disciplined, and the mind of its chief was full of misgivings.

I proceed to the operations of the German armies, very different from those of their ill-directed enemies. The main body of the First and Second Armies was required for the investment of Metz ; but three corps, called the Army of the Meuse, were detached to co-operate with the Third Army, by this time west of the Moselle, in the borderlands of Lorraine and Champagne ; and the converging masses, 230,000 strong, advanced steadily upon a broad front towards the heads of the Marne and the great roads to Paris. By the 24th of August, the cavalry outposts which preceded the movement had ascertained that the Army of Châlons had left Rheims, and was on its way to the Aisne eastward ; but Moltke refused for some time to credit the rumour that it was making for Metz, for this, he rightly thought, would be the height of folly. He learned the truth, however, positively on the 25th, and his resolution was formed with that prompt decision which is a characteristic of real chiefs, and has been exhibited by him at grave

crises. The measures he took to baffle Palikao's scheme were not wonders of genius, as has been said by flatterers, but they show true insight, and most comprehensive judgment; and they were carried out with consummate skill. The Army of the Meuse was directed to recross the river; two corps were detached from Metz to join it, and to stop Macmahon should he get near the fortress; and the Third Army was ordered to advance northwards through the district of the Argonnes and the Ardennes—the scene of the campaign of Valmy—and to gather on the flank and rear of the Army of Châlons, which would thus be placed in a difficult strait at least. The execution of this fine strategic movement was admirable in the highest degree; the great invading hosts, ruled by one master's will, well-led, supplied, and trained for the field, marched with speed and precision through an intricate country, and the careful preparation, the organization for war, the perfect unity and gradation of command, and the intelligence of the individual soldier, which are distinctive marks of the army of Prussia, were made fully and grandly manifest.

By the 27th of August the German squadrons were gathering rapidly upon their foes; Macmahon, though without the least notion of the enormous force that was closing round him, perceived that his army was in great peril, and he gave orders for a retreat on Mézières, hoping to attain Paris by a march from the frontier. For the second time, however, the incapable chief succumbed to the temptation he should have spurned. A message, that "revolution would break out should Bazaine be abandoned at Metz," induced him to continue the advance to the Meuse, and to court the ruin which he knew was probable; and it is but just to observe that Napoleon III.—he accompanied the Marshal since he had left Châlons—protested against conduct which was almost criminal.* Macmahon now tried to make a forced march; his army was divided into two great columns, in order to make its movements rapid, and the first column reached the river safely, and had crossed it by the 29th of August. The second column, however, was far to the south, and separated by a full march from the first; it was largely composed of beaten troops, already desponding, nay, half-mutinous; it was charged with *impedimenta* of all kinds, and it toiled slowly through the passes and thickets it had to traverse on its way to the Meuse. This gave Moltke the opportunity to

* This is the expression of Napoleon in a somewhat analogous case. The orders of a Government, if not precise, obviously should not excuse a general-in-chief on the spot.

strike ; the Army of the Meuse was recalled to the west of the stream, the two corps from Metz having been sent back ; a part of the Third Army was pushed forward, and the Germans fell with terrible effect on their enemies, caught in flank and surprised, at Beaumont and other places in their march. The second column was routed with immense loss ; it reached the Meuse a mere shattered wreck, pursued by the indefatigable Prussian horsemen ; and its ruin involved a part of the first column, which crossed the river to give it support. By the evening of the 30th the Army of Châlons, one corps of it as far as Carignan, was on the eastern bank of the Meuse, but half of the French troops were a demoralized mass ; and the German advanced guards were already at hand, in close communication with the hosts in their rear.

Macmahon, at this time, was at Carignan ; he confidently expected that he would reach Metz ; he boasted, it is said, that victory was at hand. The news of the events of the 30th dispelled these dreams ; he hurriedly fell back with his one intact corps, and by the morning of the 31st he had assembled the still large, but beaten, Army of Châlons in the tract that surrounds the fortress and town of Sedan. The state of the French troops was of the worst omen ; but an occasion was still open to a great chief, to extricate them from impending ruin. Mézières was not distant, and a French corps had reached the place to support the Marshal ; the Meuse spread between his army and the foe, and had he left his *impedimenta* behind, and made a rapid march, without the loss of an hour, he would certainly have escaped with the great mass of his forces. It is this circumstance which makes the strategy of Moltke inferior, fine as it was, to that which shut up Mack in Ulm ; and the Grand Army, it will be borne in mind, had been saved on the Beresina when in far worse straits. Macmahon, however, would not stir from Sedan ; there is reason to believe he never knew the immense strength of the hostile force, and he arrayed his army, " ready," he said, " to fight," along the uplands, encircled by streams and villages, which overlook Sedan and the valley below. The evening of the 31st had come ; the German horsemen made the situation known ; and Moltke, who up to this time had only hoped that he might succeed in forcing his enemy across the frontier, saw that he could reckon on a decisive triumph. Orders were issued for an immediate night march ; the great German divisions, perfectly led, and the men scenting approaching victory, moved rapidly over the space between, and preparations were made to assail and surround the feeble and shattered Army

of Châlons. It is unnecessary to retrace the scenes of Sedan, the just retribution of foolishness in command, a battle decreed by Fate, in its irony, to be fought around the birthplace of Turenne. The French were first attacked, on that fatal morning, on their southern and eastern front towards the Chiers; and they made for a time a gallant resistance, though the fall of Macmahon and a squabble between two of his lieutenants had a bad effect on the troops. By degrees, however, the overwhelming pressure of forces immensely superior told; the line of defence on the Givonne was carried; and the French were driven back, on Sedan, routed, and huddled around the walls of the fortress. Meanwhile a tremendous attack had been made on the northern and western fronts of the defence; the Germans advancing to the heights of Illy, and moving from the opposite side round the bend of the Meuse, which half encircles the outskirts of Sedan, closed gradually round their doomed foes; and though the French cavalry made heroic efforts, and one corps gallantly struggled to the last, it was impossible to withstand overpowering numbers. The last remains of the Army of Châlons were forced, like the first, against the fortress; the German artillery—throughout the campaign it had proved an arm of enormous strength—was brought to bear in masses on the perishing wreck; the fire of 500 pieces searched the scene of carnage; and a white flag soon announced that resistance, no longer possible, had completely ceased. Within a few hours 85,000 men, the survivors of more than 120,000, the victims of worse than insensate leading, were a collection of helpless prisoners of war; and their cries of impotent fury and despair—this was the attitude of by far the greater part—only provoked the pitying scorn of the victors.

This immense disaster, added to that of Metz, all but destroyed the military power of Imperial France on the theatre of war. Moltke had acted harshly at the capitulation of Sedan; he had no respect for the French character; like Hannibal and Napoleon, he treated the force of patriotic passion with contempt; and, leaving a considerable detachment behind, he directed an immediate advance on Paris. The German armies rolled steadily onward, through the valleys of the Aisne, the Oise, and the Marne, masking fortresses and occupying points on their way; and they appeared before the capital on the 19th of September, the chiefs convinced they would meet no resistance. Their expectations seemed about to be realised; an attempt to assail the invaders in flank, as they gathered upon the uplands south of the Seine, was easily defeated,

and had bad results; and the Germans were permitted, without a further effort, to surround and invest the beleaguered city. Their lines, constructed with skill and forethought, spread on a circumference of great extent, from the confluence of the Seine and the Marne, by St. Denis, round through Versailles to Bonneuil; and though the besieging forces were at this moment not 150,000 strong, no doubt existed in the German camp—it was, indeed, the general belief of Europe—that a few days would see the surrender of Paris. Weeks, however, passed, and it became apparent that this calculation was a complete error. The Empire had fallen on the 4th of September; a Government of national defence had been formed; and this Revolution, in the main caused by the passionate wrath of the great mass of the citizens, quickened the general resolve that the capital should hold out, and confront the power of the German armies. Preparations had been made to stand a siege; immense supplies of provisions had been stored; the *enceinte* and the forts which protect the city had been hastily manned and armed; enormous bodies of men had been assembled to take part in the defence of the place; these were supported by a corps of trained soldiers, and by the corps which had appeared at Mézières, and had been brought back after a skilful retreat; and though these arrangements were rude and imperfect, the strength of the city to resist attack was infinitely greater than Moltke had supposed. Sorties began to be made by degrees; these, though always repulsed, were not contemptible; the armament of the forts was completed; redoubts and entrenchments rose at many points to strengthen and to perfect the zone of defence; the citizens, warlike in all ages, though in peace addicted to pleasure and ease, acquired gradually something like discipline; the materials at least of armies were formed, and Paris assumed the aspect of a huge fortified camp, with a garrison certainly immense in numbers. Moltke took pains to secure his position; he tacitly admitted that he had made a mistake in marching on the capital without having his communications or his base assured, and with forces comparatively small; but he held his ground with determined constancy; he summoned reinforcements to head-quarters, and several corps were employed in besieging Strasbourg and other strongholds on the way from the frontier, and in overrunning Burgundy and Franche Comté. The front and lines of the invasion were thus strengthened; and, though time had passed, the submission of France was held to be a fact of the immediate future. The German chief was to be again deceived, as many warriors had been

before, in his estimate of a people, great and heroic, despite of many national faults and failings. It is all very well for the Prussian Staff to sneer at Gambetta, as it has done in its book ; but he was a man of great powers, if of real shortcomings ; and he was but the most striking figure of millions of Frenchmen. A great and sudden national rising took place ; it was more spontaneous than that of 1793 ; in an incredibly short time 250,000 men were in arms to resist the German hosts ; and by making use of the resources of France for war—old soldiers, troops in dépôts, and reserves—vast arrays were mustered, which at least contained the elements of real military power. These levies, of course, were bad soldiers, but they were formidable in numbers and in aptitude for war ; and, whatever may be said, the position of Moltke had become critical as October was closing ; the German armies were, for the most part, engaged on the investment of Paris and to the east of Metz ; they were conquerors, and had all the power of success ; but they were exposed to attack from within and without at the centres to which they were, as it were, bound ; and they were in the midst of an immense insurrection spreading all round.

At this conjuncture, a great disaster showed that Fortune was still most adverse to France. Bazaine had been shut up since Gravelotte at Metz ; he had kept his army almost inactive, and he had made no real effort to break the investment. I cannot examine the crooked intrigues in which he played an ignoble part ; but he surrendered the great fortress on the 28th of October, and the world beheld the most disgraceful capitulation ever known in war. Even on his pitiful system of passive defence, the Marshal did not nearly do his duty ; the place could have held out a fortnight longer, and the respite would have been of extreme importance. The First and Second Armies were now set free to take part in the great invasion ; several corps were sent to the north, to crush levies formed in Normandy and other provinces. One was despatched to support the siege ; and the remainder, under Prince Frederick Charles, held the tract between the heads of the Seine and Burgundy. The grasp of the Germans on France was thus greatly strengthened ; yet the position of Moltke was so unsafe that it was endangered by a single trifling reverse. An army, partly composed of good troops, but in the main of improvised levies, had been assembled south of the Loire ; it had been placed in the hands of D'Aurelle, a veteran of real organizing skill, and in a few weeks it numbered 60,000 men, and had

acquired something like military worth and power. A Bavarian detachment, perhaps 20,000 strong, and a division under the Grand-Duke of Mecklenburg, sent off to put down insurrection in the west, were the only hostile forces between this large mass of Frenchmen and the lines round Paris ; and D'Aurelle, aided by a young chief, Chanzy, who was to prove that France had yet real captains, resolved to attack the Bavarians and to retake Orleans, which had fallen into the enemy's hands. The Army of the Loire broke up from its camps, and crossed the river in the first days in November ; it fell on the Bavarians near the little town of Coulmiers. Had the orders of Chanzy been well carried out, and a turning movement been completed in time, the invaders must have been utterly routed ; but, as it was, they were beaten with loss ; and they were compelled to fall back on the roads to Paris, abandoning Orleans and the adjoining region. When this intelligence arrived, unfeigned alarm prevailed at the German head-quarters at Versailles ; the besiegers were threatened by an army of relief, and by the unknown multitudes of armed men in Paris ; and disseminated as they were on an immense circumference, they were in a situation of no common peril. Moltke made up his mind, as became a true chief ; he despatched pressing orders to Prince Frederick Charles to hasten to the capital by forced marches ; and, like Bonaparte before Mantua—a Journal, said to be his, alludes to this—he resolved, whatever the result, to raise the siege should the Army of the Loire appear from the south. This single circumstance shows how precarious the position of the Germans had become ; and had D'Aurelle boldly followed up his success the consequences to France might have been momentous. Chanzy, it is known, was for the more daring course ; Napoleon would have taken it, I cannot doubt ; and though it is idle to speculate now, the siege would certainly have been given up and the war would have had rather a different turn. D'Aurelle, however, refused to advance ; he constructed a great entrenched camp near Orleans ; and here he increased and trained his levies, hoping before long to resume the offensive. This, probably, was too great caution ; but there were reasons for the step of real weight. Prince Frederick Charles was but a few marches off, and should he reach the flank of the Army of the Loire, on its way to the capital, he would perhaps destroy the best organized force possessed by France. This clearly shows that had Metz resisted, and detained the Prince only a few days longer, the French chief would have had, and perhaps would have seized, an admirable occasion offered by

Fortune ; and, indeed, a German writer has drily remarked that "the capitulation came in the very nick of time."

The victory of Coulmiers sent a thrill through France, enormously increased the power of Gambetta, and caused levies to flock to the war in thousands. Notwithstanding the fall of Metz, and all that followed from it, the situation of the Germans was still critical ; and owing to the undoubted strategic mistake of marching on Paris with too weak a force, their movements had been incoherent, and far from masterly. By the close of November the Great City had formed three armies out of her armed multitudes ; and two of them, probably 150,000 strong, had acquired a certain degree of efficiency ; the third, perhaps 200,000 men, being only fit to defend the ramparts. I cannot describe the great sortie which followed ; Ducrot crossed the Marne and carried two villages, which had been made part of the besiegers' lines ; but ultimately he was compelled to retreat ; and, in fact, the effort was doomed to failure, for the zone of investment and the zone of defence had by this time become all but impregnable, or could be mastered only by the art of the engineer. The sortie from Paris was contemporaneous with an advance of the army of D'Aurelle's northwards ; but here Gambetta unhappily intervened, and his meddling and presumption did enormous mischief. The young civilian had done, no doubt, great things, but since Coulmiers, he had become a kind of Dictator—the history of France has too many examples how foolish hero-worship has such results—he insisted that the Army of the Loire should make for the capital, whatever the risk, though Prince Frederick Charles was near at hand ; and, as he had made that army 150,000 strong, he refused to believe that there was serious danger. D'Aurelle and Chanzy protested in vain ; two detached corps of the Army of the Loire were directed against Prince Frederick Charles, and were easily defeated by an inferior force ; and the Prince, a chief of a very high order, made immediate preparations for a great counter-stroke. The Grand Duke and the Bavarians had been approaching ; he quickly united these forces to his own, and he bore down in irresistible strength on the army, mainly of recruits, opposed to him. The centre of the Army of the Loire was broken ; its wings fell off in eccentric retreat ; one part was driven across the river, and the triumphant invaders re-entered Orleans, having gained rapid and complete success. By the first days of December it had become apparent that Paris could not burst the chain cast around her ; and the army had been shattered which had been employed,

unwisely at the moment, as an army of relief. The prospect for France was dark and mournful ; but light shone at one point on the gloomy scene. D'Aurelle had been unjustly dismissed by Gambetta ; and the part of his defeated army which had crossed the Loire had been placed in the hands of Bourbaki, the chief of the late Imperial Guard. Chanzy, however, commanded the remaining part ; and a series of operations followed which show that he had real genius in war. He was attacked by the Grand Duke in all the flush of victory ; but he had been reinforced by Gambetta's orders ; he took a strong position, covering both his flanks ; and then with true insight he assumed the offensive, essential in the case of French soldiers ; and, on the whole, he obtained some success. Prince Frederick Charles now fiercely turned against him ; he concentrated all his available forces ; but Chanzy made a magnificent stand ; and his conduct deserves the very highest praise. Perceiving that the relief of Paris should be the true object of the French armies in the field, he fell back from the Loire to the Sarthe, drawing toward the capital with great skill ; and in this he showed that he was a real strategist. Nor was he less admirable as a tactician ; he continually, in retreat, took an offensive attitude ; he turned defensive positions to the best account, and he contrived that the superiority of the French rifle should tell with full effect on the advancing enemy. Prince Frederick Charles pursued in vain ; Chanzy made good his way to Le Mans ; he was nearer to Paris than when he had left the Loire ; his army had not been once beaten ; and the Germans were not only worn out, but showed signs of demoralization and fear, for thousands had perished to no purpose ; the hardships of the winter campaign had been frightful ; and it seemed impossible to overcome the enemy.*

A pause in the conflict now occurred, to the astonishment of Europe, still doubtful—a war of races, in which colossal force was confronted by a national rising. The Germans were still, for the most part, victorious ; their armies surrounded imprisoned Paris ; they had mastered most of the fortresses of France, proved to be of little use in the struggle ; and they had made their lines of

* Chanzy, a singularly modest and truthful man, gives this account of the state of the Germans after the retreat to Le Mans : “ L'ennemi, contenu partout, était devenu de moins en moins entreprenant ; il était facile de voir que pas plus que les nôtres, ses troupes n'avaient pas résisté à la fatigue ; ses hommes étaient, eux aussi, grandement démoralisés par cette résistance d'une lutte qui se reproduisait constamment, alors qu'ils la croyaient terminée ; le désordre se mettait parfois dans ses colonnes malgré sa solide organisation et sa discipline.”

operations secure, and had overrun a full third of the country. But Chanzy was in the field unconquered; Faidherbe, a commander of real gifts, had admirably conducted a campaign in the north, attacking the invaders when he saw a chance, and falling back on the strongholds of the Somme; Bourbaki was at the head of a great force, continually increasing, on the Middle Loire; and France had realised her proud boast that she had but "to stamp her foot, and legions would spring from the earth at her bidding." Grave* anxiety was felt at head-quarters at Versailles, spite of noisy boasting of German triumphs; and Moltke, reading the facts with a true general's eye, insisted on having large reinforcements to strengthen the wearied and thinned invaders. Troops in tens of thousands from the trained reserves of Germany were called into the field; shrunken regiments and corps were restored in numbers; new corps entered the east of France, and preparations were made on an immense scale to quicken, by a bombardment, the fall of Paris. The organization of the German armies, though strained to the utmost, bore the test; and if the trials of the war had told heavily on the young soldiers who crowded the ranks, a fierce national passion still upheld the invasion. Moltke made excellent use of these new forces. Up to this time, his movements had suffered from the effects of the premature advance on Paris; but the error was now completely rectified, and his dispositions were able in the extreme. Keeping his grasp on the capital with stern tenacity, he so distributed his corps on the theatre of war that a far-spreading external zone of resistance protected the inner zone of investment; and should an attempt, therefore, be made to relieve Paris, he would have a double set of armies to oppose the French and interior lines on the whole circumference. Secure within this circle, he defied the enemy, but he was ready at all points to take a bold offensive, and he eschewed the whole system of mere passive defence. The exertions of France were also prodigious. Independently of the Parisian forces, she had placed 500,000 men in the field, with from 1,300 to 1,400 guns, and history, despite the Prussian staff, will pronounce this a gigantic effort. These levies, however, were most inferior troops. They were no match for their trained adversaries; they were not equal to long marches, and at this supreme moment they were wrongly directed. Chanzy, the

* This message from Berlin, at this juncture, is very significant:—"La position militaire est regardée comme critique dans les cercles bien informés. On a des inquiétudes sur l'issue finale de la lutte."

master-spirit of the national defence, saw what the situation was, and what it required; he appreciated the ability of Moltke's strategy; but even now he did not despair of success, and in a despatch, marked with true insight in war, he urged that all the provincial armies should endeavour to combine and march on the capital, which, in turn, should fiercely attack the besiegers. This last effort would, I believe, have failed; but it was the true course and perfectly conceived; and it was that which Moltke expected and feared. Unhappily for France, Gambetta rejected the counsels of her most distinguished soldier, and, giving ear to a silly theorist, he adopted a plan for the operations at hand, false in principle and, as facts stood, ruinous. At this moment Werder, in the east of France, was engaged with his corps in the siege of Belfort; the garrison was making a firm stand; Bourbaki, in command of his large army, was in the Nivernais, on the verge of Burgundy; Garibaldi had a motley array near Dijon, and a large army was ready to march from the south. In this state of affairs, instead of directing all the forces of France in a march on Paris, Gambetta resolved to make a great effort to relieve Belfort and to enter Alsace. For this purpose the collective forces of Bourbaki, Garibaldi, and the south were to join, and the result, it was hoped, would place the French armies on the communications of the invaders from the Rhine, and would have great and glorious results. This plan, strikingly resembling those of Carnot in 1793-1794, was, even in the abstract, misconceived; the detachment to the east of the French armies would expose and isolate Chanz y on the west, and even were the communications of the Germans reached, this would be at a point too remote to relieve Paris, or seriously to affect the issue of the campaign. But, in the actual state of affairs, the project was little less than foolishness; the armies intended to relieve Belfort and to attain Alsace were not equal to a great operation of real danger, and the scheme in truth was of much the same kind as that which had led to the catastrophe of Sedan.

In the last days of December, Bourbaki's army set off from the Nivernais to reach Franche Comté. The march of the columns was pitifully slow; the troops suffered terribly from cold and disease; and signs of evil omen had become manifest long before Belfort had been approached. This eccentric movement set the Grand Duke and Prince Frederick Charles completely free to attack Chanz y upon the Sarthe; and the German chiefs, who had had their forces recruited to a very large extent, broke up from

Chartres, Nogent le Rotrou, and Orleans, and bore down on the French commander, advancing on an ever narrowing front. Chanzy had detached flying columns to observe the enemy; these fell back as the assailants drew near; and the French army, by the 10th of January, was concentrated within its lines at Le Mans, which had been fortified with skill and care. A fierce and protracted struggle followed; Chanzy, very different from the incapable Bazaine, really did wonders with his raw young troops; but, at nightfall on the 11th, his extreme right was turned by a desperate effort of Prince Frederick Charles. He evacuated Le Mans, and lost thousands of prisoners; but he made good his way to the Mayenne; and here he still kept his foes at bay, having in his retreat drawn nearer Paris. He was still full of hope, and wrote in that sense; but before long a tremendous disaster befell the ill-fated forces of France in the east. Bourbaki was joined by a part of Garibaldi's troops, and by the army moving from the south; and with this force, fully 130,000 strong, he crossed the Ognon, and almost reached Belfort. He was, however, defeated with ease by Werder, with a force very inferior in numbers; and, after one or two fruitless efforts to outmanœuvre his victorious enemy, he fell back baffled, and made for Besançon. Here he gave up his command, and tried to commit suicide; his ruined army continued to retreat, but Moltke saw that his opportunity had come and he turned it to account, with great skill and decision. Three corps were detached from the external zone; Manteuffel, at the head of them, bore down on the enemy; Werder, with part of his corps, pressed forward from Belfort; and Bourbaki's whole army, under its new chief, Clinchant, was surrounded and driven across the Swiss frontier. This was the end of Gambetta's ambitious enterprise, which alike had caused the defeat of Chanzy and had ruined the last hope of success for the provincial armies.

It fared almost as ill with France in the north, on the theatre where Faidherbe conducted the war. That skilful officer had continued the game of harassing the enemy, and falling back; and he had even fought a battle at Bapaume, which he had some right to describe as a victory. But about the middle of January he advanced towards St. Quentin, in the hope, it is supposed, of either relieving Paris, or of making eastward towards Bourbaki's army. Moltke sent off a corps from the zone of investment, and defeated him with considerable loss; and, though he effected his retreat to Lille, his forces were for the time paralyzed. The military strength of France outside Paris was thus rendered almost

powerless ; Moltke had made the best use of his interior lines, on a great and complex field of manœuvre ; and the false direction given to Bourbaki's army had practically decided the contest in the field. The proud capital alone remained ; and invincible famine was already at hand. In the first days of January the bombardment began ; for fully three weeks shot and shell crashed through all parts of the beleaguered city ; but no impression was made on the *enceinte* or the forts, and still less on the great mass of the citizens. The attack, in fact, altogether failed ; it does no credit to the German Engineers, and it attests Moltke's dislike of Frenchmen ; and it must be condemned as barbarous warfare, for it was known that Paris must ere long surrender. Towards the end of the month the end came ; a last sortie for the honour of arms was easily repulsed with great slaughter ; and on the 28th of January 1871 the capitulation was signed. German horsemen defiled under the Arch of the Star, a monument to the Grand Army, as the Guards of Napoleon had passed through Berlin ; the tricolour has been plucked down from Metz and Strasbourg ; and France mourns the calamitous Peace of Frankfort. Yet the defence of Paris, and the efforts made by the improvised armies of Chanzy and Faidherbe, were exploits worthy of a great nation ; in the hour of misfortune France may say, like her king, that she has not lost honour ; the resistance she made, all things considered, was grander than that of 1793, and it has redeemed the ignominy of Metz and Sedan.

The success of the conquerors in this gigantic war is the greatest, perhaps, recorded in history. The Imperial Army of France was carried away captive ; her improvised armies were nearly half destroyed ; her fortresses yielded one after another ; her capital held out, but succumbed to famine. The theme is a fine idol for the worshippers of success ; and Moltke has been held up to the admiration of mankind as the greatest military genius in the annals of war. Yet, if we calmly examine the course of the contest, we perceive that the operations of the German chief do not reveal one grand strategic conception, and are characterized by several grave errors ; they exhibit science, decision, and strength of character, and perfect execution of the thoughts of others, not originality, or "the faultlessness" claimed for them. Moltke—and this does not detract from his fame—owed much to his foes, and much to fortune ; Bazaine and MacMahon, in different ways, sink to the level of the Soubises and Clermonts ; the fall of Metz was a godsend to Germany ; but Chanzy was a warrior of real powers ;

he kept the issue of the struggle long doubtful, and had he had the supreme control of the forces of France, it is impossible to say what might not have happened. Some of the lessons taught by the war are commonplace; well-organized armies, of overwhelming strength, defeat armies inferior in every respect; trained and disciplined troops beat raw levies; disaster is all but certain to follow when the simplest rules of the military art are disregarded for supposed reasons of State. Two great facts, however, require special notice; the German armies are the most formidable which have ever appeared in the modern world; there is an element of weakness in their young soldiers, but they represent a mighty race in arms, ready at any moment to march on to conquest; and this has been the result of years of training. On the other hand, the national rising of France, after Metz and Sedan, was a noble movement; it was marked by heroic courage and self-sacrifice; and yet it failed, and probably was doomed to fail, though the resources of France for war are enormous, and the French are a people of born soldiers.

I have come to the last of my Great Commanders; what is Moltke's place in that august succession? It is difficult to catch a true likeness of a figure not in the perspective of Time, and whose career belongs to the history of the day. Moltke has many, I think, of the gifts of Frederick; he is a thoroughly accomplished and educated man; he has extraordinary force of application and thought; his perseverance deserves the highest praise; and though he has not been tried by the test of ill-fortune, he has evidently the tenacity and firmness of the Prussian king. Like Frederick, however, he wants supreme genius and the imaginative power of the greatest chiefs; but he is far superior to Frederick in all that relates to the large combinations and movements of war, though probably his inferior on the field of battle. It is his special characteristic that he was one of the first to see what are the new conditions of war in this age, and that he turned them to the very best account; the Prussian Army and that of the lesser German States had been, in a great measure, created by him; and Moltke, I conceive, has "organized victory" more thoroughly than has ever before been seen. His place as a strategist is more doubtful; his countrymen have called him "the great strategist," but this is the exaggeration of national sympathy; and in this sphere of the art, I certainly think he holds an inferior rank to Turenne, and he has not even approached the height of Napoleon. His originality in his conceptions of war. If he really

directed the converging movement into Bohemia, in 1866, whatever have been the modifications of the art, this was inconsistent with its true principles; his advance on Paris was a distinct mistake; and in his operations at Metz we see many errors which Bazaine possibly might have made disastrous. His peculiar strategic merit is that he can work out to perfection accepted views, and improve upon the ideas of others; but in this there is not the masterly power seen in the campaigns of 1674 and 1675, of 1796 and of 1800. Still Moltke is a real chief of the grand school of Napoleon; he can move large armies on a wide theatre with remarkable forethought and scientific skill; his marches against the armies of Châlons, and the army of Bourbaki, are very fine, and he made the best use of his interior lines in the final operations around Paris. His merits as a tactician are less easy to estimate; in the case of the immense battles of the present day, the real head of an army can do no more than make arrangements of a general kind; but if he directed Gravelotte, it was ill-directed, though it is well known he condemned Steinmetz; and in theory he is a master of modern tactics. Moltke seems to have a cold and passionless nature; like Wellington, he has commanded the respect of officers and men but not their devotion; Prince Frederick Charles was the real hero, in the eyes of the Germany soldiery in 1870-71; and this remarkable chief possessed in a high degree the peculiar gifts of his greatest ancestor. It is astonishing, however, if we bear in mind that Moltke was in his sixty-seventh year when he first commanded an army in the field, that he should have achieved what he has achieved. He is a great commander, beyond dispute, and as an administrator in war he has never been excelled.



The Vale of Cashmere.

By MAJOR-GENERAL R. REVELEY MITFORD.

Who has not heard of the Vale of Cashmere,
With its roses the brightest that earth ever gave—
Its temples, its grottoes, and fountains as clear
As the love-lighted eyes that hang over their wave?

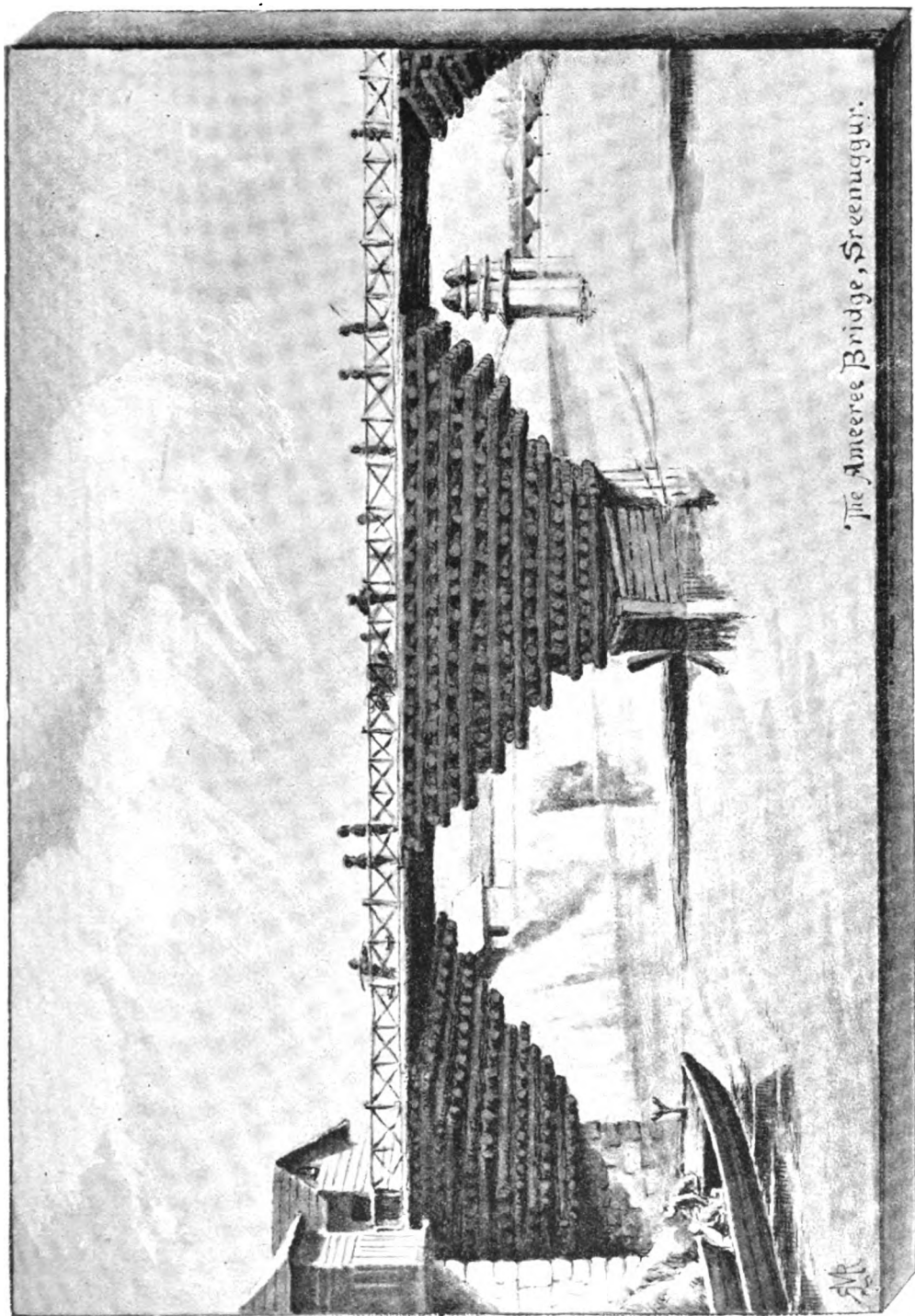


O sang Moore in "Lalla Rookh"—that charming tale of Eastern courtship—that magic web of fact and fancy so cunningly and gracefully interwoven that few would care to separate the threads; nor is it less admirable for the wonderful descriptions of scenery which the poet never beheld, descriptions so vivid and so correct that they might almost be taken as guides to the "Valley of Bliss," the beautiful land extolled by Persian poets as *Kashmir-be-nazir*—"Cashmere the peerless!" Surely, to read Moore's flowing stanzas while calmly floating on the bosom of the beautiful lakes, or reposing under the shade of the stately chenar-trees is to approach as near Nirwāna as any but a Buddhist need desire.

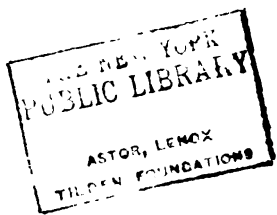
The City.

The easiest, and therefore usual, approach to Sreenuggur, the capital, is by a road which leaves British territory near the Murree sanitarium, and follows the left bank of the river Jhelum (the ancient Hydaspes) to its point of issue from the great Wulur lake at Baramoolla, a fishing village of considerable size, with a picturesque fort garrisoned by a detachment of Dogra soldiers, and a wooden bridge over the river. The Wulur is the largest of the three lakes which remain to show that, at some distant period, the whole valley was a vast inland sea.

At Baramoolla the traveller changes his mode of conveyance—hitherto either driving, riding, walking, or a sort of sedan chair called a "dandy"—and embarks on one of the picturesque and comfortable, but unwieldy, boats which take the place of all wheeled vehicles in Cashmere as completely as gondolas usurp the same functions in Venice; another barge accommodates the ser-



The Amere Bridge, Sreenuggur.



vants and baggage, while the ponies continue their journey to the capital by a circuitous land-route.

Each boat has a roof and side walls of coarse, thick matting, forming a fairly comfortable cabin, and screening the occupants from the crew, who sit and row forward, while the turbaned and swarthy cockswain is perched on the high pointed stern, and steers with a broad paddle, enlivening his solitude by droning Hindustani ditties or shouting to the crew to make more energetic use of their shovel-shaped paddles, which continually remind one of the ace of spades, but with a highly-developed tail. Whenever the servants are wanted, or meal-time arrives, the second boat is brought alongside, and dishes are handed from the "galley" on board the latter. The boat's crew, consisting of from four to eight men besides the steersman, cook in their own part of the boat, or postpone the operation until nightfall, when the day's work is over, and the boats are safely moored until morning. These boatmen are a cheery, hard-working set when properly treated, though of course a good deal depends on the honesty of the cockswain.

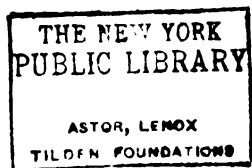
Crossing the Wulur is sometimes dangerous work, for the mountains which descend to its northern shore are foot ranges of the mighty Himalaya, and many a sudden storm is bred in their icy bosoms to sweep the wide surface of the lake, and overwhelm any unfortunate craft whose crew have been so rash or so ignorant as to continue their course instead of instantly seeking safety amongst the reeds and water-weeds close in shore.

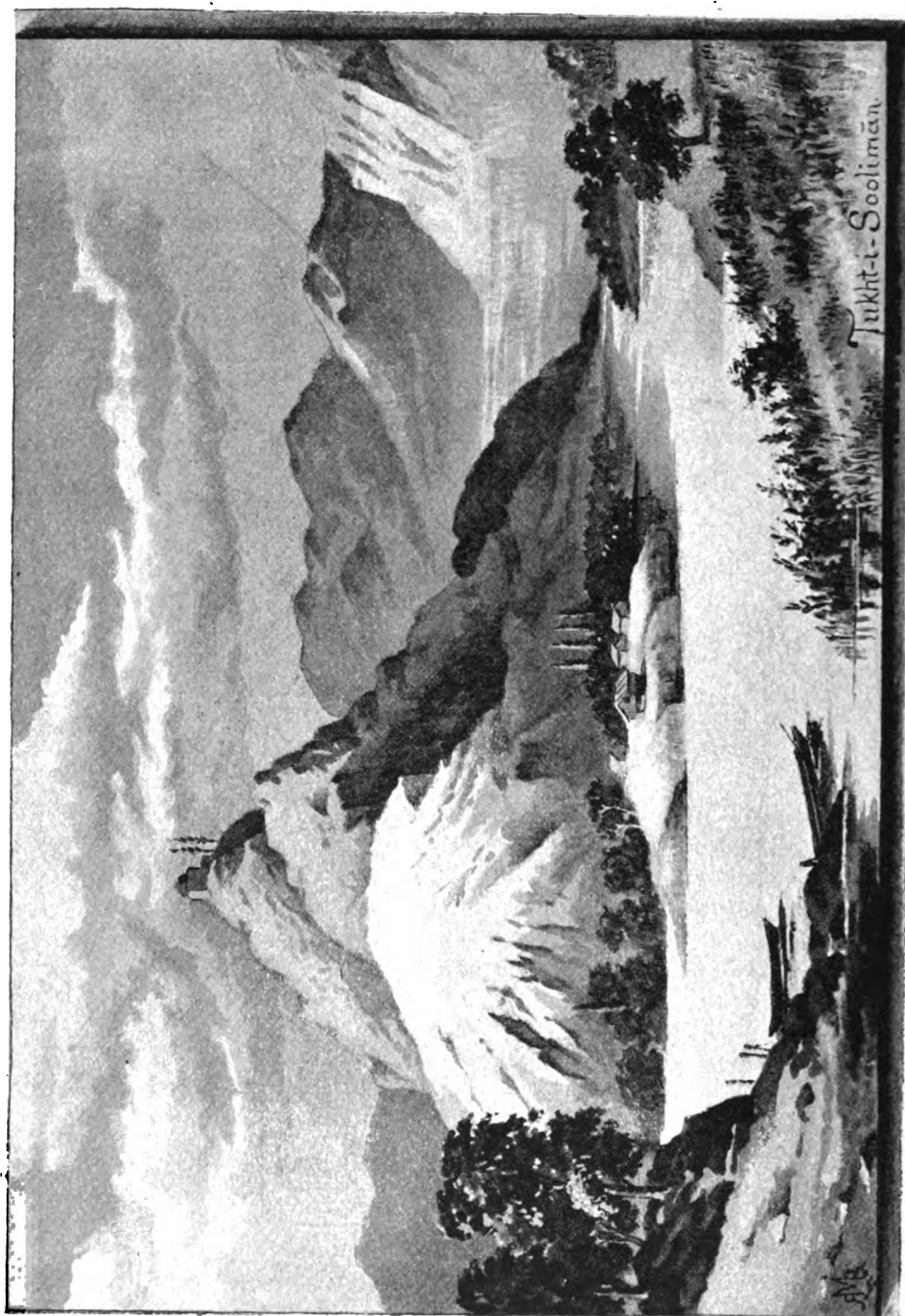
A row of some hours' duration brings the traveller to the marshy and mosquito-haunted bay where the river enters the great basin, and then a longer pull up the stream between banks fringed with willows or over-shadowed by gigantic plane trees (chenars), conveys him to Shadipoor, where the Jhelum receives the overflow of Manusbul, the smallest of the lakes. Still continuing the upward journey, log-built houses begin to appear on each side of the wide stream, boats, barges, and dug-out canoes are more frequently met, the hum of a human hive makes itself heard, and a sudden turn brings the city into view, a dense collection of wooden buildings divided by the river into two masses, the main road marked by stiff but stately lines of poplars, vineries, and gardens along the banks upheld by masonry revetments, the broad dome of the great mosque and the quaintly picturesque roof of the Shah Hamadan breaking the straighter line of dwellings, while high above all rises the massive rock of Hurree Purbut, crowned by the irregular bastions of its fort, the Acropolis of Sreenuggur.

The city is built—chiefly of wood—on both banks of the river, connection being maintained not only by the innumerable boats continually passing to and fro, but also by seven massive wooden bridges built of unhewn pine stems laid in tiers, alternately along and athwart, and resting on rough but serviceable piers of loose stones and rubble retained in place by stout piles driven deep into the bottom of the channel. These bridges rank amongst the most striking and characteristic features of Sreenuggur, and add greatly to the strangely picturesque aspect of the city.

The river Jhelum may be looked upon as the “High Street” of the city; canals branch off on each side, piercing the dense mass of buildings, and acting as side-streets and—alas!—as sewers. These canals are usually crammed with small dinghies or dug-outs, the latter made of a single tree-stem, and all loaded to the water’s edge with fruit, fish, vegetables, and all sorts of cheap supplies, like floating costermongers’ barrows, while the surface of the main stream is furrowed by the larger craft conveying passengers or merchandise, the former employing light, sharp-prowed gondolas, rapidly driven through the water by the quick, short strokes of heart-shaped paddles, the latter laden on heavy, square-built barges, laboriously working their tedious way up-stream with the aid of long punting-poles, or stolidly and heedlessly floating down with as little regard for the safety or convenience of smaller craft as brewers’ drays in Piccadilly. On rare occasions, the gaily bedizened wherry of some great noble or wealthy banker appears to diversify the scene, the steersman yelling to the crowd to clear the way, and the rowers giving vent to heavy grunts at each stroke—not by way of pretending that they are pulling very hard, but in order to keep better time. More rarely still, the busy wayfarers are huddled together under the banks to leave ample way for the heavy gilt barge of the Maharaja himself, the great man sitting under a cupola-shaped canopy of scarlet cloth, richly embroidered with seed-pearls and gold, and looking (as all Eastern, and some Western, potentates always do) intensely bored by the silent homage of his subjects. Add to this moving panorama the bright frame of gaily-painted projecting verandahs, draped with the many-hued products of the Cashmere loom, and over all throw the deep blue sky and brilliant sunlight of a Cashmere summer, and you have a picture of such strange detail and such vivid colouring as may well compel you to return to your childish belief in fairy-land.

most striking object in all views of Sreenuggur is the Shah





Hamadan mosque, built on a terrace of rough-hewn stone with a flight of steps descending to the river, its four-square log walls and great shingled roof surmounted by a spire rising high above the neighbouring buildings. Farther up the stream stands the palace of the Maharaja, with two octagonal towers, something like pagodas, of white and crimson masonry marking its lower limit, the upper entrance being formed by a massive gateway with a guard-house, in front of which stand two stalwart sentries clad in scarlet turbans and tunics and white trowsers. Just above the palace is the Ameeree Kudul, or Nobles' Bridge. A sketch of part of this bridge shows the queer mode of construction previously described.

The visitor who confines his wanderings, as too many do, to the main water-ways, can gain but a very limited idea of the city and its inhabitants; to extend this he must thread the narrow off-shoots of the main canals, frequently disembarking to prowl through the narrow streets with their quaint sights and dreadful smells, or at least he must visit the chief bazaars and leading merchants' shops. In the former he will find the clever craftsmen producing the *papier-maché* boxes, painted stands and tables, engraved silver and copper ware and violet-coloured embroideries now so well known in England. Most of these articles are manufactured in workshops little better than dog-kennels, open to the street, and only slightly raised above the ground. Here sits the patient workman, heedless of the passing crowd, and only stopping for a moment when addressed by a possible customer. On rough shelves behind him are ranged old specimens of his art—vases, water-goblets, trays, tankards, hookah-bowls, and many other articles of graceful shape, all traced with that peculiar "serpent and pine" pattern which is said to have been first suggested by the tortuous windings of the Jhelum as seen from the summit of the adjacent Tukht-i-Suleiman, or Solomon's Throne, a temple-crowned eminence overlooking the river. By his side lie various pieces of work in progress, rough shapes of metal and almost equally rough tools, lumps of charcoal, a small brazier and bellows, and the inevitable hookah, or "hubble-bubble," as the English griffin not inappropriately terms it.

On his first arrival at Sreenuggur the traveller is quite fascinated by these workshops, but the process is so monotonous, and there is such utter want of originality and such servile copying of western forms and patterns in the modern handicrafts, that interest soon fails, and he is glad to turn to the more brilliant and variegated displays of the shawl merchants. But here, alas!

Six Months with a Russian Family.

By CAPTAIN W. CYPRIAN BRIDGE.



It is not often that an Englishman has an opportunity for learning aught of the manners and mode of life of the people of Russia, but more especially of that section of them forming the educated middle classes. There is certainly a numerous English colony in the country, or in St. Petersburg at least, but its members are mostly exclusive, living together, knowing only one another at the English club, and rarely becoming acquainted with the natives around them, their ideas or aspirations. The British military authorities, in now offering some slight encouragement to officers to visit the country and study its language—for which latter purpose they usually seek for quarters in the homes of respectable citizens—are also indirectly conducing to a more extended knowledge of the Muscovite race than has previously been possessed by Englishmen. Indeed, it is surprising to find how little we know of the Russians and they of us, and it is not too much to say that this mutual ignorance is the mainspring of the mistrust and want of sympathy which the two nations outwardly exhibit towards one another. A very short residence among the enlightened classes of Russians suffices to convince even a casual observer that while they differ widely from us in many respects, they have yet many characteristics and predilections in common with ourselves and the other peoples of Northern Europe. Instead of the narrow-mindedness and reserve usually attributed to them, we find a thirst for knowledge of the world, a warm-heartedness and effusiveness amounting almost to gush. Most Russian gentlemen are strong in the belief that the leading nation of the world is England; that for intelligence, industry, and determination there is no one to be compared with the typical Briton, and they are fond of openly expressing such opinions. It is often said that, living comparatively

apart from other nations, on his sea-girt mud-bank, the Englishman is apt to grow self-sufficient, and to over-rate his own worth. I venture to think that if he goes to live among Russians, and hears their praise of his nation, he will be still more apt to do so.

Almost all the middle-class people who can do so, reside in the large towns, and to live permanently in the country is considered a proof of poverty, land being so cheap and so easily supporting its occupiers. And in the towns it is only those of rank and wealth who live in entire houses, the majority occupying parts of flats called "quarters." The houses containing such quarters are all built on one plan, viz. on three sides of a square. The fourth side is closed by a high blind wall, which generally also serves as the back wall of a second house abutting on another street. The front cellars of a house are usually utilized as mean shops, whilst in those of the wings live washerwomen, cobblers, and persons of the poorer sort. In the quadrangles are to be seen the stacks of firewood, principally split trunks of the silver birch, belonging to the occupants of the various flats. The ground-floor on the front is also devoted to shops, but of a better description than those below, and at the sides it is used as stables and coach-houses for the various families residing above. The quadrangle is entered through a large archway piercing the ground-floor on the front, the pavement outside being sunk in a curve to admit of the passage of horses and vehicles. A broad flight of stone steps leads to the different floors, the quarters being disposed right and left of it on the various landings. The first-floor is the most fashionable, and all the flats overlooking the street are more expensive than those situated in the side faces, the windows of which necessarily look inwards into the courtyard. The façades of the houses are elaborately sculptured in conventional styles, the projecting ornamentations serving as convenient resting-places for large numbers of pigeons, which are generally to be seen perching there. The flats themselves are as ill-arranged and comfortless as they could well be. Standing in the dark narrow entrance passage of any one of them it is possible, when the doors are open, to see into every room, including the kitchen, scullery, and other offices. Almost all the rooms open into each other by large folding doors, fitted with handles and locks like those of a railway carriage. Indeed, domestic comfort is unknown to Russians. The windows are all double, the inner and outer frames being about a foot apart. In summer the inner frame is taken out, but in winter its interstices

are carefully puttied, and external air can only be admitted by means of one pane of glass working in a hinged frame, as does the corresponding pane in the outer sash. But, sad to say, in the majority of cases even this is never opened. Floors are never carpeted, the blocks of polished wood remaining cold and bare, save, perhaps, for one small mat. The two most common objects in every room are a stove in one corner, reaching from floor to ceiling, exactly similar in appearance to a length of steamboat funnel; in another an *obraz*, or holy picture. Before the *obraz* in the room of the master of the house a small oil-lamp always burns. A description of any one sitting-room answers as that of nearly every other in St. Petersburg—white, staring walls, a crimson cornice, lanky pier glasses between the windows reaching to the ceiling, a seldom used grand piano, a very much used card-table, some stiff-backed chairs ranged precisely round the edges of a cheap mat, a round table bearing three books, and exactly at its centre a lamp. Perhaps there may be two pictures upon the walls; and, if so, one of them will be that of a saint or the portrait of an archbishop; perhaps two plants in pots, and, if so, they will be dusty and of unnatural appearance. Such is the best parlour of a gentleman of St. Petersburg.

An inevitable adjunct of every house is the *dvornik*, a personage whose functions are various, and who is an odd admixture of servitor and of government official. Houses of any size have three or more *dvorniks*, one of whom may be always seen sitting at the main entrance, in winter resembling an inanimate bundle of furs or sheepskins, but nevertheless keeping a sharp look out on all who go in or out. It is the duty of the senior *dvornik* to promptly report to the district inspector of police all arrivals in or departures from the house, and for any failure to do so he is subjected to a fine. He also makes known anything suspicious that he may detect in the conduct of any of the inmates of the house. In short, he is a sort of Government spy. On the other hand, he assists the inmates by protecting them from thieves, looking out for fires and performing other odd jobs. The very night of my arrival, the senior *dvornik* requested my passport for inspection by the police, and I had to sign my name on a sheet of paper for comparison with the signature on the passport. Even persons who came to stay for only two nights had to go through this form and bother, paying also for the shilling stamp then affixed to the document and feeing the *dvornik* for his trouble in procuring it. The Russians have an unbounded inquisitiveness, and ply their visitor

with question after question, in defiance of all good manners and in despite every rebuff. "What is your income? How many servants have you at home? What did you pay for your suit of clothes?" and such-like interrogations are repeated with most irritating pertinacity. Then you are generally asked whether St. Petersburg is not a much larger and finer place than London, your decided reply to the contrary being ever received with incredulity. The first question a Russian puts to a stranger is: "What is your christian name?" The second, "What is your father's christian name?" He thereafter addresses the latter by both these names combined, but affixing to that of the father the syllable *ovich*, which signifies "son of." Thus, supposing a man's name to be Kostia, and his father's Vladimir, he is known as Kostia Vladimirovich, i.e. Kostia son of Vladimir. Surnames are never used except in official documents and in addressing letters, and you may know a man a very long time without ever hearing his surname.

It is a fact of world-wide notoriety that the Russians are great tea-drinkers, indeed in many houses the *samovar* is never absent from the table, but is boiling the livelong day. Merchants talk over their business and conclude bargains under the stimulus of tea, treating each other to this beverage instead of to alcohol, as we do; and shop assistants are rarely without a tumbler of it at their elbows. As a rule it is partaken of so weak as to be little more than discoloured hot water. To drink it out of cups, except they be of really good china, is not considered "the mode," tumblers being generally used. Your Russian is exceedingly fond of sugar, but is also very economical, and the latter trait usually prevailing, he is wont to make one lump of sugar suffice to sweeten two tumblers of tea by holding it between his teeth and causing the fluid to flow past it. Then, as a *bonne bouche*, he finally crunches up what remains of the lump, and eats it. Many, however, prefer a spoonful of jam in their tea to any sugar. It is the custom for children to present to their parents on the birthdays of the latter, as also for near relatives to one another, a species of confection called a *krendil*. This is a sort of sweet bread-stuff containing raisins, and it is taken to the person for whom it is intended as early in the morning as possible. Trades-people are in the habit of taking *krendils* to their principal customers on certain anniversaries. The latter, as a rule, decline the proffered gift, and indeed usually themselves give a small money present in acknowledgment of the attention; and my host, who was a wag in his

way, declared that one tradesman of whom he knew used one *krendil* during two years for all his customers, and turned a handsome sum of money over it. The Russians have two main meals in the day, breakfast at about 12.30 and dinner at six, both meat meals; but, of course, concluding with the inevitable tea. Tea with black bread is partaken of on rising, and the last thing at night. They rarely eat white bread, but seem to prefer, apart from its smaller cost, a coarse, black description, sodden and sour of taste. Butter, too, is a luxury for feast days and special occasions, the usual accompaniment of the bread being a sort of oil. As a race the Russians are not long-lived, a man of fifty-five being about the physical equivalent of an Englishman of seventy. This is not a matter for wonder, considering their diet and mode of life. To take my host, Dmitrievich, for example. He always rose at ten, and then, after four or five tumblers of tea, spent his time in reading the papers until breakfast, when he ate large quantities of meat. Then, unless he considered that his avocations required his presence for an hour and a half in his office, he sat about the house or slept until dinner-time, when he would make another hearty meal of meat, without vegetables or salt, unless indeed there happened to be cabbage or beetroot soup, which was not often, green food being so expensive in winter. Not one of the family ever partook of salt, and the youngest boy, aged ten, usually made his breakfast off a pound and a half of beefsteak without any other accompaniment save a tumbler of tea. To return to Dmitrievich. After dinner he would sit in the parlour once more until ten o'clock, when he would sally forth and *drive* to some friend's quarter, there to play cards for modest points until two or three o'clock in the morning. Almost all visiting takes place in the evening, and should four persons by chance thus assemble out comes the card table directly without a word of suggestion from anyone, but as a matter of course; the ladies light up their cigarettes, and eagerly enter into the play. Every Russian is a gambler by nature, and loves to make his evening a profitable as well as a sociable one. Dmitrievich's three children, the eldest aged fifteen, played cards for money amongst one another, and quarrelled over the settlements unchecked by their parents. Owing to this gambling propensity insurance companies of every description are extensively patronized, and are consequently numerous, policies for very paltry sums being procurable. The demeanour of children towards their elders is one of respect not unmingled with fear, and they are somewhat harshly treated by the latter, although on the other hand they

are allowed to be deliberately disobedient in a manner unknown in England. Always after a meal children kiss their parents on the face and hands, and thank them for having given them food. Children, like servants, are always addressed by their elders in the second person, or simply by their Christian names, not as "son" or "daughter" of so and so. All the schools of importance for both sexes are under the Government, and the pupils wear a semi-military uniform. Unless he has influential friends, no one can obtain any employment in the State without first going through the complete course at one of the Government gymnasia. To go through the course consists in passing through eight classes. The pupil must be one year in each class, indeed must remain in it for another if his work is not satisfactory during that year, and he fails to pass the examination at the end of it in any one subject. The subjects comprised in the tuition are rigidly prescribed according to the whim of the Minister of Public Enlightenment as he is called, and more importance is just now attached to Greek than to all else put together, because the present Minister is a good Greek scholar. Also, modern languages rank higher than mathematics. The school fees are very small, and those of a boy who wins prizes or certificates are in part remitted. As previously stated, and like most members of the male sex in Russia, the pupils of the gymnasia wear a uniform, and there is such a feeling of antagonism existing between the boys of the various institutions that they often set upon each other. University students (those gentry who represent the "advanced" ideas of "young" Russia, and who, undeterred by the deplorable example offered by England and other "constitutional" countries, sigh for a parliament with all its littleness, shabbiness and trickery) not only wear a uniform but also a sword. In addition to the ordinary gymnasia there are others known as cadet corps, the education in which has a more military tone, and in which the pupils are almost all the sons of military officers. The Russians are not yet educated up to the system of competitive examinations, but anyone who has completed the course at any one of the gymnasia is qualified to become an officer.

The authorities, however, now confer commissions only upon the sons of officers, and those of civilians have no chance whatever of obtaining any. As the educational course and the military system in vogue in the cadet corps is very popular, all the army officers try to put their sons in one or other of them, although more than one half of these youths are not destined for the army. One meets

shoals of these cadets in the streets of St. Petersburg, and every second they are saluting some officer who passes. This is somewhat inconvenient for the other pedestrians, particularly if the object of the salute happen to be a general, as then the cadet, or soldier, halts abruptly and turns towards his superior ere he raises his hand to his cap. On the Nevsky Prospect, where the crowd is at times half as great as that in the Strand, this practice occasionally causes quite a block. One grows very weary of generals in St. Petersburg; they are more numerous there than are privates in the streets of Aldershot, and attract less attention. In addition to those on the active list, who, of course, always wear uniform in common with all other officers, retired generals as a rule appear in military attire, and one meets the most venerable individuals creeping along with the aid of sticks or crutches.

The Government pays all its servants on the 21st of every month, and upon that date the shops and streets are more than usually filled with military officers bent upon purchasing supplies. At Christmas time especially they make themselves conspicuous in this respect, and may be seen staggering under the hugest parcels. It was amusing to see a general having a goose under one arm, a rocking-horse under the other, and a band-box suspended from the top button of his great coat endeavouring to look dignified and to acknowledge numerous salutes on both sides of him. It frequently happens that persons bent on marriage, whose social status barely entitles them to be considered as belonging to genteel society, when ordering the wedding feast request that "two generals may also be sent." The latter are to give tone to the company, and for their services they receive eight roubles (16s.) and the run of their teeth. Nothing is complete without generals. They command everything, from army corps down to regiments, from cities down to laundry companies. There are some anniversaries on which many generals, by virtue of wearing certain orders, are invited to dine in the Winter Palace, and on these occasions they always bring away a silver spoon or some such trifle as a memento. There is one very distinguished and highly-placed general who has acquired a wide reputation on account of such little "abstractions."

One evening at the Imperial table someone called the Czar's attention to the fact that a portion of the plate was not real silver. Greatly vexed, the latter demanded to know why this was, when the minister in attendance explained that knowing General P—— was to be of the party he had ordered that no valuable articles should be placed within his reach.

This story is firmly believed in by many Russians; and as there is seldom smoke without fire, there is presumably some truth in it.

It should be explained that in Russia there are generals and generals. The forces are separated into two distinct parts—the Guards and the army. The officers of the Guards are, as a rule, men of good or respectable birth; those of the army are just the reverse, and are picked up anywhere, a large proportion of them indeed having risen from the ranks.

One day I chanced to be in a tramcar seated alongside an officer of very juvenile appearance. There came in a military cadet who, seeing the officer, stood before him, and having made the customary salute said “Do you allow me to sit?” The officer replied, “I see no reason why you should.” So the cadet remained standing at attention. Then entered a general, the cadet saluted, and was told to sit, which he did, whereupon the young officer demanded of him why he presumed to do so. The general soon relieved the lad’s mind on that score, but refrained from then noticing the officer. The cadet, however, soon afterwards alighted. Then the general said in a loud voice to the officer, “Now, Sir, you or I must leave this car—which is it to be?” The officer rose, saluted, and hurriedly left, amid the laughter of all present.

One evening also a “Yunker” (the equivalent of our Sandhurst cadet) with whose family I was acquainted, went to a theatre and, failing to notice a general who was sitting somewhat near, took his seat without asking permission. Very soon the general sent to ask his name and number; and the Yunker returned to College to find himself under arrest and sentenced to a week’s extra picquet duty.

There is one well-known general-adjutant who has gained for himself the nickname of the “Dry General.” A great parade of troops was taking place before the Czar during a heavy rain, and the light-grey summer paletot of the Sovereign and those of his Staff were wet through, and assumed a blackish tint, when the eye of Alexander III. was suddenly attracted by the paletot of the general in question, which gleamed (aggressively) grey and dry amidst the surrounding blackness. Summoning this officer, the Czar said, smilingly, “Please tell me how you are so beautifully dry, whilst we are all so wet?” The general was covered with confusion, for, thinking he would never be missed out of so many present, he had gone away and sought shelter under a shed.

The present Czar, with his burly frame well-covered with flesh, seems quite insensible to the cold, and even in the depths of winter

wears a light summer overcoat instead of the customary fur-lined one. Many of his Staff, fearing to differ from him or wishing to flatter by imitation, do the same, and thus often contract serious chills.

We are so accustomed to form our ideas of the Czar and his mode of life from newspaper reports that it causes one considerable surprise to see him driving freely and unattended about the streets, dressed in his military uniform, and apparently unsuspecting of danger. Round the palace, however, sentries and detectives armed with revolvers are numerous, and, you have only to hurry somewhat, or to look up at the windows, to be closely scrutinized by one of these latter gentry. But daily at 3 P.M., at which hour the Czar and Czarina usually drive out, a small crowd is allowed to assemble at the very gates, so close to the Imperial sleigh that anyone there could touch it. The Empress is very popular among the people, and nearly every cap is doffed whenever she drives through the streets in her sleigh, with her "John Brown," a stalwart Cossack dressed in his quaint national costume, standing behind. The Czar, who accepted the Crown only after much solicitation, is no lover of pomp or even of town life, but prefers to live quietly at Gatchina, where he often exercises himself by sawing up logs of wood.

About a year ago, it having come to his knowledge that all sorts of irregularities and malpractices were being carried on in the administration of many of the public institutions, he resolved to make unexpected visits to some of these in order to ascertain the truth of the accusations. In the Alexander-Nevisky Monastery it is ordered that there shall always be a monk watching by the tomb of the saint after whom the institution was named, and that all the monks shall attend certain religious services during the day. The Czar entered the church almost unattended, and found it empty, so he took a seat and waited until a boy came in after the lapse of some time. Calling to the latter, the Czar questioned him.

"Does not a monk always watch at the tomb here?"

"No; never."

"Do they often have services in the church here?"

"No; very seldom."

So the Czar still sat and waited some two hours, when at last a monk sauntered in and looked round. Catching sight of his Sovereign, he recognized him, and ran for his life. Very soon all the *personnel* of the monastery filed in, and divine service commenced.

But it was too late to save appearances ; the Czar had seen enough, and next day everyone in authority in the monastery was dismissed his post and sent off to Archangel or elsewhere.

Upon another occasion, the Czar paid a visit on horseback to a certain gymnasium for girls. The *dvornik*, an exceptionally stupid lout, did not recognize his Sovereign, and in answer to the latter's interrogation as to whether the head-mistress was at home, surlily replied that he did not know. The Czar then asked which was the way in.

"Well," said the *dvornik*, "as you are riding, you had best go into the courtyard and leave your horse there, and then go up by the 'black' staircase."

The Russians say "black" instead of back staircase. The Czar followed these directions, and wandered about a deserted corridor for awhile until he at length met face to face with the head-mistress, who, seeing that something was wrong, fell on her face and sought forgiveness. These and similar stories of the Czar's adventures are current in St. Petersburg, and are universally believed.

Apart from their reverence for the Sovereign himself, it is remarkable how little interest the Russians take in the Imperial family, in internal politics, or in the doings of their ministers. At the beginning of this year the *Times* was shaking its head and groaning over the rejection by the Czar of Count Tolstoi's scheme, saying that it was a blighting of all the hopes and aspirations of the enlightened portion of the people, and a retrograde step which would throw the development of the country back nearly a century, adding that public opinion was running high over this matter. Having read this, I remarked to many of my acquaintances that the English papers stated that the Czar had rejected Count Tolstoi's scheme. "Oh!" said they all, in an uninterested way; "and what is Count Tolstoi's scheme?" My host once explained that the generality took not the slightest interest in internal changes, knowing that these changes would not affect them or the majority of the people, but were simply Ministerial dodges, and that the one principle of the subordination of all persons and all things to the Czar and his lieutenants would ever remain. It may be as well to state that this rejection of the above-mentioned scheme, which does at first sight appear to be, and perhaps is, a retrograde step, is in reality but a proof of the sound, practical common sense of the ruler and his advisers.

The Russian peasant, like the negro in America, has ever since

his emancipation been deteriorating and becoming a less valuable personage to the State and to himself. As a serf, he was made to do useful work, was obliged to behave himself, and to respect his superiors. Now he thinks himself as good as any man, does only what work is necessary to enable him to derive a hand-to-mouth existence from his holding and provide himself with vodka, or causes his wife to work for him like any plantation slave whilst he spends his time in drinking. It is rare when a peasant does not drink, still rarer when he works steadily; but he always assumes an independent, my-own-master air towards his betters. All this has become so apparent that the authorities have wisely decided that the peasant requires repressing, and must be taught his place, and so have deprived him of some of the privileges which tended to make him bumptious.

Ladies who are fellow-sufferers in England will sympathize with their sisters in St. Petersburg, who greatly complain of the scarcity of good servants. Indeed, the average "maid" there is as pert, as troublesome, and as useless as she is with us, and is almost as difficult to deal with. The characters of servants are recorded by their successive mistresses on a printed, semi-official form, and it is a curious fact that it is forbidden by law to give a servant a bad character. Having recorded her length of service in your house, you must either "damn her with faint praise" or else preserve a discreet silence, but to record the plain fact that she is "no good" is prohibited; indeed, Madame Dmitri was one day called upon to amend a character which was considered to be so worded as to injure the recipient's chances of obtaining another situation.

Many have already heard of the Russian droskhy, that most comfortless of vehicles, which, when lack of snow prevents the use of the almost as comfortless sleigh, is the standard means of conveyance in the capital. To all intents and purposes an open four-wheeled carriage, save for a hood, which can be used to partly close it, the droskhy seems to have been purposely devised to expose the passenger as much as possible to the cold. These remarks apply also to the sleighs. Besides this, there is so little back to the seat that it is imperative to sit bolt upright upon it, and have the full benefit of the frequent bumps and jolts caused by the ruggedness of the stone-paved streets. When the weather is bad, there is no protection from the mud and water freely thrown up by the vehicle in its passage, and one frequently has one's meditation aroused by a dig in the back from the horse of

a following droshky. This description equally applies to the sleigh. An Englishman, thinking to at once confer a blessing upon the people and a fortune on himself, introduced English-built cabs, but no one would use them and he speedily became a bankrupt. The Russians no more understand comfort out of doors than they do in the house, and what is more, do not want it. The one merit of the droshky is its cheapness. On most days you can ride from one end of St. Petersburg to the other for a shilling. There are no fixed fares, and it is always necessary to drive a bargain with the *izvostchiks* (drivers), whose droshkies are drawn up along by the kerb-stone of the footway. You approach the nearest and say, "Twenty kopecks to Troitzky Bridge?" He replies, "No, thirty." A second driver hearing this says, "I will take you for twenty-five." But you do not notice him and pass on, when a third, who has been awaiting the upshot, says, "All right, come along for twenty." Then No. 1 shouts excitedly, "Please come back, I will take you for twenty; please, please, please," shouting until he sees you fairly drive off with his successful rival; and all this about twopence. In bad weather, on slack days, and when there is not much doing, you can beat the *izvostchik* down to almost nothing; indeed, he is a person who would be deserving of compassion had he himself only a little consideration for his horse. His average earnings are two and a half roubles (five shillings) per day, for a day which commences at 7 A.M. or 8 A.M., and ends at one o'clock or later in the night. There he sits, in all weathers, cooped up in his small box-seat, often not moving for hours, haggling with would-be passengers; quarrelling with his fellow *izvostchiks*, who bump against him or cut him out in bidding for a fare, and hunted by the police. The horses are the wretchedest of animals, emaciated, worn-out, and constantly smarting under the cruel blows of their owners. Within three months I saw four horses fall dead upon the streets from starvation or over-work, and was told of two others having done so. The Society for the Prevention of Cruelty to Animals existing in the city seems not to concern itself with the four-legged slaves of the *izvostchiks*. Tramcars are much used on all the principal streets, and are always well filled, although it is considered to be scarcely correct to ride in them. Perfect order in the streets is one of the principal objects aimed at by the Governor of St. Petersburg, and consequently black-coated policemen are posted everywhere, and interfere with all whom they conveniently can. These policemen are smart looking, and of very fine physique,

being the pick of the regiments of the Guards. They are exceedingly unpopular amongst all classes of the people, and bear the nickname of "Pharaoh," though why no one could tell. The force has a purely military organization. At many of the principal street crossings officers of the force, lieutenants and even captains, are stationed to control the traffic, and regulate the movements of vehicles and pedestrians in the same manner as the humble "bobby" does in London, only that the latter carries out his task far more intelligently and efficiently. Much of the time of these police officers is taken up in saluting their many superiors who may happen to pass, or in acknowledging the salutes of their own inferiors in rank. Sometimes an *izvostchik* will in some manner contravene the rule of the road. Then the police officer will order him to halt, proceed to abuse him, ask him why he behaved thus, and why he does not obey orders. All this time the vehicles in rear have to halt too, and a complete block occurs when, as often happens, the police officer orders the offending driver to turn his vehicle about and return by the way he came, thus obliging the public generally to participate in his punishment. Whistling, shouting, and singing in the streets are strictly forbidden, and it is only during the last few years that pedestrians have been allowed to carry walking sticks.

Bargaining is a common practice among Russians, being resorted to in all but the best shops. Dmitri used always to wait till evening to purchase his daily paper from the news-boy at the corner, because then he could get it for about a farthing cheaper than in the morning. The Russians are exceedingly fond of money, talking of it constantly, and they admire a man more for his wealth than for any qualities he may possess. Recently the *Novoe Vremya* in an article remarked, and with truth, that all the talk in the streets was always of roubles and money-making.

(*To be continued.*)



A TARTAR BOWMAN.

By V. PAWLISAK.

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A Wonderful Exploit.

By COLONEL W. W. KNOLLYS.



THE most peaceable members of society delight in stories of deeds of heroism. Even women admire while they shudder at descriptions of dangers and difficulties overcome by courage, presence of mind, and ingenuity. I make, therefore, no apology for giving, in an abbreviated form, the tale of the recapture of a prize taken by a French privateer in 1692. Not only is the story highly exciting, but the style is so illustrative of the English sailor of William III.'s reign, so indicative of mingled truculence and piety, so quaint, that one is reminded at once of one of the most popular books in the English language, viz., *Robinson Crusoe*. Indeed, there is some reason to suppose that either Defoe had a hand in writing the story, or else formed his style on it.

The narrative I found bound up with a collection of old pamphlets, published during the last twenty years of the seventeenth century. The particular pamphlet of which I propose to give the gist has for a title-page the following:—"A True and Exact Account of the Retaking a Ship Called the *Friend's Adventure* of Topsham, From the French; After She had been Taken Six Days, and they were upon the Coasts of *France* with it Four Days. Where One Englishman and a Boy Set upon Seven French-Men, Killed Two of them, took the other Five Prisoners, and brought the Ship and them safe to *England*. Their Majesties Customs of the said Ship amounted to 1,000*l.* and upwards. Performed and Written by Robert Lyde, Mate of the same Ship. London, Printed for R. Baldwin, near the Oxford Arms in Warwick Lane, 1693."

The preface is addressed to the "Courteous Reader," and the first paragraph expresses so strongly the intense hatred of the English and the French, that Nelson's advice to his young midshipmen, "Hate a Frenchman as you would the Devil," is almost

mild in comparison. The paragraph in question runs thus:—
 “I here present you with a Token of God’s Almighty Goodness in relieving me, by his special Providence, from the Barbarity, Inhumanity, and most cruel Slavery of the most Christian Turk of France, whose Delight it is to make his own Subjects Slaves, and his chief study to put Prisoners of War to the most tedious and cruel lingering Deaths of Hunger and Cold, as I have experimentally (to my own Damage) both felt and seen, by a four Months’ Confinement in his Country.”

In May 1690 Lyde, when on board an eighty-ton trader, while on the return voyage to England, was, with his shipmates, captured by a French privateer with a crew of over a hundred men. Lyde, the mate, and three other men were taken on board the privateer. Lyde, notwithstanding the overwhelming odds, tried hard to persuade his companions to make an attempt to capture the privateer. They, however, not unnaturally considered the enterprise too desperate. Landed at St. Malo, after several months of captivity, during which his treatment was most barbarous, he was released, and, as soon as he had recovered his health, shipped as mate on board the *Friend’s Adventure* of Topsham, of 80 tons, bound for Oporto. Ill luck still pursued Lyde, for at 6 A.M. on the 29th February, when twenty-five leagues north-west of Cape Finisterre, a ship was perceived coming up at a great pace. At 10 A.M. the stranger hoisted French colours and fired a gun.

“Then I took up a Rope yarn and seiz’d two parts of the Topsail Hilliers” (halyards) “together, that our men might not lower the Topsail, for I was desirous to have as much time as possible I could to hide some necessaries to attack the *Frenchmen*, at which the Master (perceiving and knowing my intention) said, ‘Mate! are you in the same mind now as you have been in all the Voyage’ (for I had often been saying what I would do towards the retaking of our Ship). I answered ‘Yes,’ and said that I did not question but with God’s assistance to perform what I had said. The master said he believed I could not do it, but if I should, he thought it was impossible for me to carry home the Ship; notwithstanding all this I was not discouraged, but desired him to pray for a strong gale of Wind, after we were taken, that we might be separated from the Privateer, and be out of sight of her.”

Lyde then hid a blunderbuss and ammunition betwixt decks amongst the pipes of wine. A few minutes later a boatful of privateersmen came on board, and, taking with them all the crew except Lyde and a boy, left seven men as a prize crew. In three

hours time the privateer was out of sight, and Lyde immediately began to take the first steps towards recapture.

"I ask't . . . the Master if I should fetch a Barril of Wine up, in hopes to make them drunk, and then I should command them with the less trouble. He said I might if I could find one; then I fetched a Barril of five Gallons of sweet, strong Wine, and kept it tapt in the steeridge, and I drank freely of it, hoping that they thereby would be induced to do the like, and so drink to excess; but that stratagem failed me (for they were never the worse for drinking all the time I was their Prisoner), and then I acquainted the Boy with my intent, and perswaded him to assist me in overcoming them, and I would, with the assistance of God, carry the ship to *Gallisia* in *Spain*. I continued soliciting him for his compliance in that . . . but could not prevail with him."

At noon a day or two later, being off Ushant, with an easterly wind, "I called the Boy down betwixt Decks, and read two or three Chapters in the Bible, and then used all my endeavour to persuade him to assist me, but by all the Arguments I could use I could not prevail at this time. Then I took a Brick and whet my knife upon it, and told the Boy I would not use my knife upon any account till I was carried into *France*, except it were to cut the Throats of the *Frenchmen*, at which words the Boy startled as if his own Throat had been cutting, and then left me, and went up on the Deck."

At four in the afternoon, being within half a mile of the port, he became very melancholy at the thought of a second captivity in *France*. Going down into the cabin, he prayed earnestly for a southerly wind to prevent the ship going into harbour, and his prayer was answered. On the evening of the following day he prayed for a south-west wind, that the ship might not be near the shore in the morning. The boy, sent up on deck to see what the wind was, returned with the intelligence that it was south-west, and the ship's head north-north-west. "Then I rejoiced and gave God thanks for this second signal providence."

At midnight he was called to the pump. He tells us that he never went save when he chose, "nor would I do anything else for them, thinking it much inferior for an *Englishman* to do anything for a *Frenchman*." This time he did not choose, and, refusing, lay down again, resolved that if force were attempted he would kill as many of his opponents as he could. As it happened he was left alone, and spent most of the night in a fruitless attempt to induce the boy to assist him. Next morning he "prayed heartily for a

South-East wind," and, as it happened, almost immediately the wind shifted to that quarter.

"Then I gave God thanks, and rejoiced at his signal providential mercy on me, and for so immediately strengthening my Faith." He again solicited the boy, but in vain, so began to think of making the attempt alone, and, the better to prepare himself, drank a pint of wine and half a pint of oil. Called at this time to join the privateersmen at breakfast, he says that the sight of the Frenchmen "did immediately take away my Stomach, and made me sweat as if I had been in a Stove." I venture to suggest that the closeness of the cabin, and the smell of the food, coming on the top of the extraordinary mixture which he had just swallowed, had something to do with his feelings. The Frenchmen asked if he were sick, and to dispel any suspicions he said he was, and went below. Then he urged once more the boy to assist him, but again the rather spiritless youth refused.

After breakfast the crew separated, the master lying down in his cabin, two men lying down "in the great Cabbin," another man retired to a cabin between decks, one man sat on a stool at the helm, while the remaining two men walked the deck.

"Then hoping I should prevail with the Boy to stand by me (if not resolved to attack them myself) I immediately applied myself to prayer, and desiring God to pardon my Sins, which I had committed, and to receive my Soul, and the Boy's to mercy, for I thought if they overcame me they would give the boy no quarter (although he did nothing against them) I prayed also for my Enemies who should happen to dye by my Hands, because they may not have time to call for mercy themselves; I prayed also that God would strengthen me in my design, that my heart not fail in the Action. And then I endeavoured again to persuade the Boy, telling him that we should bring a great deal of Honour to our Native Country, besides the particular honour which would accrewe to ourselves."

The boy refused to be stimulated to courage. The two Frenchmen on deck going to pump, Lyde made another useless attempt to induce the boy to profit by the opportunity. He then spoke earnestly to the boy of the hardships of a prisoner in France, and at last began to win him over. The boy asked what part he was to play, and was told that he had only to knock down the man at the helm with a ring-bolt. As to himself, Lyde said that he intended to kill but three, "for three of our Men that died in Prison when I was there." At length the boy consented, and it

was settled that as soon as he heard Lyde strike the first blow he was to knock down the man at the helm, and afterwards to watch at the cabin door in order to give notice if the two other men on deck were about to enter it.

At 9 in the morning, Lyde, seeing that the two men on deck had gone to pump, pulled off his coat that he might be more "nimble," and his cap, that if knocked on the head he might be killed outright, and, with a pious ejaculation, entered the cabin where two men were sleeping. The cabin being very low, he put his legs "abroad," holding a crowbar, which he had picked up outside the door, in the middle with both hands. At that moment the man nearest him opened his eyes, and seeing Lyde's threatening attitude strove to rise, but was at once prostrated by a blow on the forehead, which inflicted a mortal wound. The other man, aroused by the noise, opened his eyes, and in his turn strove to rise, but Lyde struck at him. The man, putting up his arm, only partly guarded the blow, which fell on his head, and stretched him by the side of his dying comrade. The Captain, who was in the inner cabin, disturbed by the noise, sat up, and seeing what Lyde had done, shouted out some obscenities. Lyde thrust at him with the claw of the crowbar, and stretched him on the deck as if dead. In the meantime the second man attacked had risen, and rushed at him with head bent low, as if to butt his antagonist. Lyde thrust at him with the point of the crowbar, and made a wound an inch and a half deep in his forehead. He then pushed him into the steerage. The Captain he thought dead, and to make sure of the first man he dealt him another blow, which scattered his blood and brains about the cabin.

In the meantime, the boy, on hearing the sound of Lyde's first blow, had knocked down the man at the helm with a drive bolt, but, as afterwards appeared, not permanently disabling him. To return to Lyde. Having as he thought disposed effectually of the three men in the cabin, he went out to attack the two men at the pump, who had heard nothing of what had been going on. As he was going towards them he saw the man into whose head he had struck the point of the crowbar, "crawling out upon his hands and knees upon the Deck, beating his hands upon the Deck to make a noise, that the men at the pump might hear (for he could not cry out nor speak). And when they heard him, and seeing his Blood running out of the hole in his forehead, they came running aft to me, grinding their Teeth, as if they would have eaten me."

Lyde, on this, seems to have retreated inside the steerage, and struck at them as they entered the door, but the roof being low he could not get a full blow, and they warded off the crowbar and laid hold of the latter. A struggle for its possession now ensued, the boy, who might have knocked them down, being too faint-hearted to move. Lyde called out to the boy to lay hold of the crowbar, and pull with the Frenchmen, when he would suddenly let it go. The boy did so, and Lyde, suddenly loosing his hold, was pulling a knife out of his pocket, when the two Frenchmen, guessing his purpose, seized his right arm with both their hands.

The Captain, having by this time come to himself, came up and clasped his waist. Next came the man whom the boy had knocked down, and also threw himself on Lyde. Thus Lyde had to struggle with four men at once, two of them being unwounded, the boy standing by paralyzed with terror. Lyde called out to him to knock on the head the man that had hold of his left arm. The boy on this aimed a blow with the drive-bolt, but so feebly did he strike that he missed his blow. On this, Lyde told the boy to knock down the man that was hanging on his back. The boy did so and felled the man, who, however, rose again immediately, but being disabled went out on deck, staggering to and fro. Lyde, looking about for a "Marleen speek, or anything else to strike them withal, but seeing nothing, I said, 'Lord, what shall I do?'" In answer to this prayerful interrogatory he spied a marling-spike hanging up close by. By a vigorous effort he cleared his right arm, seized the marling-spike, and managed to strike the man holding his left arm several times on the forehead with the point before his right arm was seized again. After some more struggling the marling-spike was wrenched from his hand, but fortunately it fell where none of the Frenchmen could lay hold of it again. The position of affairs was now as follows:—The man that had been struck on the head, being a resolute fellow, was grasping Lyde's left hand and had his back to his breast, while the other two men, both unwounded, had hold of his right arm. What followed I shall give in the writer's own quaint language.

"At this time the Almighty God gave me strength enough to hold one man in one hand, and throw at the other's Head, and looking about again to see for anything to strike them withal, but seeing nothing, I said, 'Lord, what shall I do now?' And then it pleased God to put me in mind of my knife in my Pocket, and altho' two of them had hold of my right Arm, yet God Almighty strengthened me so, that I put my right Hand into my right

Pocket and took out my knife and Sheath, holding it behind my Hand so that they should not see it, but I could not draw it out of the sheath with my left Hand, because the Man that I struck in the Head with the Marlin speak had still hold of it, with his Back to my Breast; so I put it between my Legs, and drew it out, and then cut that Man's Throat with it that had his Back to my Breast; and he immediately dropt down and scarcely once stir'd after. Then with my left Arm I gave both the men a push from me, and hawled my right Arm with a jerk to me, and so clear'd it of both of them, and fetching a stroke with an intent to cut both their throats at once; they immediately apprehending the danger they were in, they both put their Hands together, and held them up crying, *Corte, Corte, Monsieur, moy allay pur Angleterre, si vous plea*. With this I stopt my Hand, and said, *Good Quarter you shall have, alle a Pro*; and then I put my knife into the Sheath again, but they not obeying my command, but standing still, I concluded they had a mind to have the other bout with me; but I drew out my knife again, resolving to cut their Throats, but then their Countenances immediately changed, and they put off their Hats and said, *Moy alle pro Monsieur, Moy travallay pur Angleterre, si vous plea*. Then I stopt my Hand again, and they went out upon Deck and went forwards."

Lyde had virtually now gained the victory, but he had still to take measures to secure it. He told the boy to remain at the steerage-door, hold it fast, and watch to see if anyone was coming. Next he went into the cabin and procured a blunderbuss with ammunition. Then leaving the boy at his post to watch and give warning, he went towards the two wounded men who had cried for quarter. These made for the fore-shrouds, but on Lyde presenting his blunderbuss at them, they came down on deck again, and, at his orders, went down into the fore-peak. Lyde then descended and nailed down the scuttle on them. He next, blunderbuss in hand, went into the cabin between decks where one of the Frenchmen lay asleep, unconscious of the tragedy which had taken place. The man yielded at once, and mounted into the steerage, where, seeing the man whose throat had been cut lying in his blood, "he wrung his Hands, crying out *Jesu Maria*, and calling upon some other saints; I told him I had nothing to do with *Maria* now." This man was made to join his two comrades in the fore-peak, the scuttle being afterwards nailed down again, and further secured by two heavy bags of "Shumack" being placed upon it. Lyde having carefully searched for the re-

maining two Frenchmen, could not find them anywhere between decks; so, taking the bolt and giving the boy the blunderbuss, with orders to fire at anyone in the main-top who might seek to cast anything over at him, Lyde, he went aloft. After ascending some distance, he discovered the missing men in the fore-top covered with a sail, with sashes bound round their heads, "and they had made a great part of the Fore-topsail Bloody, and as the ship rould the Blood run over the top."

He called to them, and they went on their knees crying for quarter, which he granted them, ordering them to come on deck. One obeyed, and by his directions went down into the forecastle. "But the other Man was one of the three that I designed to kill, and the same that I struck the Crow into his forehead, and he knew that he had said ill things of the Prince of *Orange*, meaning our gracious King, and that an *English* Man of War was no better than a Louse, and did always call me up to Pump; these things I suppose he thought I had not forgot; and that therefore I would not give him quarter, notwithstanding I intended to do, but I suspected him to be an *English* or *Irish* Man, and I was resolved if he proved so, that I would hang him myself when it did please God that I had help coming aboard from England." By alternately promising him quarter and threatening him with the blunderbuss, Lyde at length got him to come down, when the Frenchman kissed his hand and called him his "*boon Monsieur*." Lyde made him join his companion in the forecastle, stationing the boy with the blunderbuss to shoot them if they should attempt any act of hostility. He then opened the scuttle; sent the two men down into the forepeak, and calling up the man who had first asked for quarter to help to sail the ship, he secured the scuttle again, leaving, however, openings for air. Having, with the aid of the Frenchman, thrown the two dead bodies overboard, he trimmed the sails and made for England. He had a little leisure now to see to his prisoners, so he handed down to them bread, a gimlet and spikes to draw wine from a cask, brandy to wash their wounds with, candles, some sails to lie upon, and their clothes. Later on he secured all the scuttles in the upper deck. All that day and the following night the wind was changeable and fresh, blowing sometimes very hard, and the weak crew were worn out by constant trimming, lowering, and hauling up sails, besides frequent pumping; but at 2 p.m., Lyde was rewarded for his dangers and fatigue by sighting the *Start*. The wind, however, continued to blow hard. At Sefton, on the second day after the recapture, and at about three

leagues from Lyme, the wind grew calm. Soon, however, the sky looked threatening, but Lyde cherished the hope that he would reach Topsham Bar before night. These hopes faded, and he looked forward to the night with disquiet, "for now I was hardly able to lift up my Hands to my Head, by reason of my frequent Pumping, and for want of sleep." At 6 P.M. he made the boy fire a "pattereroe" three times, and hoisted the French white ancient tied in a red sash for the pilots, or as he calls them in his narrative, the "Pilotes." By dusk he was within a mile of Topsham Bar, but the pilots, not seeing an English ancient, were afraid to come out, and lay on their oars near the bar. He kept beating about for some hours in an awkward predicament, for the wind was blowing hard. He had no more powder for signals; had only one anchor left, and was too short-handed to manage the sails properly. At 3 A.M. he bore away for Topsham Bar, hoping to cross it in the morning tide, but by 5 A.M. the wind subsided, and he did not fetch the bar till 10 A.M., which was too late for the morning tide. The pilots came out, but seeing only Lyde and the boy, and no colours, were afraid, and began to row back. Lyde being now within hailing distance, called to them, and induced them to come on board. They wanted to let out the prisoners to assist in working the ship, but Lyde, ever thoughtful and patriotic, refused, for fear they should see how the bar lay, and "become Pilotes." The pilots wished Lyde to take some sleep, but he declined, for, as he says, "the joy of having six English Men on board banisht all sleepiness from me." At 5 P.M. the ship was at anchor, and Lyde sent all his prisoners on shore, that they might receive medical attendance. At 6 P.M. he himself landed and went to see his prisoners, two of whom the doctor said could not live a week. Those that were only bruised by the struggle "put off their Hats and kist my Hands, and shew'd a great deal of love to me outwardly. After I had seen them drest and good Lodging provided for them, I went home to refresh myself with Sleep, and the next day I marcht my Prisoners to *Exeter*, and carried them to one of the Owners' Houses, and afterwards delivered them to the Mayor."

Here ought to have ended the story, but the gallant Lyde was destined to suffer much from the rascality of the owners of the ship. Lyde had sent off a messenger to them on the morning of the day on which he landed. Lyde says that he was credibly informed that while he was at *Exeter* the owners had sent a man to take possession of the ship, but the Chief Officer of the Customs

hearing or suspecting the man's designs, put five "Tides-men" on board, and so baffled his design. They then spread a report that they intended to arrest Lyde because he would not allow them to put a master over him, thinking that he could not get bail, but learning that he was provided with bail, they desisted. When, at length, he arrived in London, the owners of the cargo tried to get possession of the latter in order to deprive Lyde of the salvage, and were guilty of other villainies. Eventually, however, Lyde got a decree in Chancery for half the value of the ship and cargo. Being presented to Admiral the Marquis of Caermarthen, his gallant conduct was brought to the notice of the King, who gave him a gold medal and chain, and recommended him to the Lords of the Admiralty for "Preferment in the Fleet, which I am now attending the Honourable Board for." I do not know what success he had, or what became of this gallant and splendid specimen of British seamen of two centuries ago.



Naval Warfare:

ITS PRINCIPLES AND PRACTICE HISTORICALLY TREATED.

By REAR-ADMIRAL P. H. COLOMB.

CHAPTER XVII.

THE CONDITIONS UNDER WHICH ATTACKS ON TERRITORY FROM THE
SEA SUCCEED OR FAIL—(*continued*).

The war of American Independence prolific in strategical lessons.—But in the methods of attack there is no difference.—Fewer lessons can be drawn from the events of the French Revolutionary and Napoleonic wars, because the attacks on territory were generally based on the supposed alliance with part of the populations.—Lord Howe and d'Estaing at Sandy Hook.—The relief of Newport.—Junction of Byron and Howe forces d'Estaing to the West Indies.—Barrington's attack on St. Lucia.—D'Estaing's interference and Barrington's defence.—Reflections on the defective strategy on both sides.—Byron's strategical error in quitting his watch on the French fleet.—D'Estaing's capture of Grenada, and Byron's failure to relieve or recover the island.—Rodney's capture of St. Eustatia.—More perfect strategy of de Grasse against Rodney.—Misapprehension as to Hood's position off Fort Royal.—De Grasse's attack on and repulse from St. Lucia.—Success against Tobago.—Rodney paralyzed.—Suffren and Hughes in the East Indies, and the capture of Trincomalee.—Perfect system of the attack upon Belleisle in 1761.



THE American War of Independence is, perhaps, more than any other prolific in examples of the influence which command of the sea, and the loss and regaining of that command has on the initiation, the success, or the failure of expeditions carried over sea against ports and islands. The naval forces were more evenly balanced than usual on each side, and such a condition would, under ordinary circumstances, have led to a renewed struggle for the command of the sea similar to that which was carried out between England and Holland in their three great naval wars, or between England and France in their first naval war.

But both in the East and in the West the countries at war were holding territories contiguous, and accessible the one from the other, either by sea or land, or both. The great stake which was immediately played for was the independence or subjection of the

North American Colonies of Great Britain, and she was, in consequence, precluded from throwing her whole force against the sea forces of Spain and France. It might have been higher and better policy for these countries to have fought directly for the command of the sea in European waters, continuing the ill-organized but gigantic effort of 1779 with greater determination and skill. But the more immediate and natural desire on the part of Spain to recover the great trophy of Gibraltar, and the necessity that lay upon France to succour directly the revolted English Colonies, together with the desire of increasing her holding in India, threw the Allies into a kind of naval war in which the attack and defence of territory became a primary object. The main point was to place at the proper times, in the proper localities, naval forces great enough to succour places which were defending themselves, or to cover attacks on the enemy's positions.

In the West Indies and North America, the influence of season compelling the withdrawal for a time of nearly all naval force from the southern islands to the Northern Continent, and *vice versa*; and the double duty thrown on the forces on each side, of attacking and defending territories in close proximity, put actual command of the sea more or less hopelessly into the background, until the great victory of Rodney, in April 1782, sent the British scale of force permanently up. But in the distant Bay of Bengal, where reinforcements could only arrive at very long intervals after they had been asked for, the sea forces were about as evenly matched as they had been a century before in the North Sea. And there both sides showed themselves aware that all attacks on territory over a doubtfully commanded sea are, at best, chance-work; five great and drawn battles were fought between Sir Edward Hughes and Suffren simply for the command of the sea, which was never gained by either side.*

Yet I must dwell for a short space in these waters, over one of the most perfect exercises of naval strategical ability which is left on historical record. The capture of Trincomalee by Suffren was a most admirable illustration of what can be done in the successful attack on territory from the sea, if the time-limit is thoroughly understood and properly calculated; while, on the other hand, the exceeding narrowness of the limit shown is a warning as to the risks run under such conditions.

We have seen that the method of attack by expeditions over sea

* The same characteristic had been exhibited in the former war in these waters, where Pocock and d'Aché set the example afterwards followed.

had long been established, and that the idea of capturing ports or islands by naval forces alone was almost entirely out of view. The experience of a century, marked by only one or two successes and many failures of ships against works, and almost uniform successes of troops covered and supplied by ships when numerically sufficient and properly handled, had quite settled the plans of attack. Only extraneous causes, such as want of troops or disbelief in the enemy's strength, could lead to occasional departures from the established form. Therefore, as the motive powers and the weapons were similar to what had preceded them, we ought not to expect to draw any special lessons from the territorial attacks in the American War, or in the Revolutionary and Napoleonic wars with France, touching the method of attack. We have, in fact, drawn all those lessons already. But we shall find some useful illustrations as to the indirect influence of naval force, or even to its direct effect in covering, sustaining, or interfering with attacks upon territory.

There is, however, at least one operation during the War of American Independence to which special attention must be drawn, on account of the very remarkable significance of its lesson. Charleston in South Carolina was twice attacked by expeditions over sea during the American War of Independence. The first of these attacks failed; the second succeeded. Charleston was again twice attacked in the American Civil War, when the first attack failed, and the second succeeded. Between the two pairs of attacks eighty-seven years had rolled, and the whole face of naval warfare had changed. Steam power had superseded sail power; the shell had superseded the shot; iron had to a great extent superseded wood; and iron armour was adopted as the clothing of ships. Yet, according to the example, the rule of war which governed success and failure in attack had undergone no change. In 1776 and in 1863, ships alone failed to capture the place; in 1780 and in 1864, troops supported by ships in the usual way succeeded.

Otherwise, the one or two illustrations which I propose to draw from operations on the other side of the Atlantic during the War of American Independence, will have reference less to the form of attack than to the strategical causes which led to projecting such enterprises, and to their ultimate failure or success. We shall, in short, from one or two other examples, gain some confirmation of those views to which the examples of Louisbourg and Minorca had led us.

The French Revolutionary War, though marked on its outbreak by many remarkable successful and unsuccessful attacks upon territory, is somewhat barren of the lessons conveyed by former wars, for the reason that political causes, as much or more than military ones, governed the initiation as well as the issues of nearly all these struggles. And this was the case equally in home waters in the East and West Indies, at the Cape, and in the Mediterranean.

The state of semi-insurrection in which Ireland found itself determined the efforts of Hoche and Morard de Galles upon Bantry in 1796, the landing of General Humbert in Killala Bay, and the more thoroughly abortive design of Bompard against Lough Swilly in 1798. So did the divided condition of the people of France encourage the disastrous descent of the Emigrés at Quiberon Bay in 1795. So did Corsica pass into the hands of the British, and out of them in 1794 and 1796.

The reduction of the different ports in Ceylon in 1795-96 was undertaken in view of a presumed difference in political opinion amongst the Dutch possessors of the island, and the summonses to surrender assumed a willingness on the part of portions of the garrisons to revolt against the dominant Republican faction. At the Cape of Good Hope, when it fell to the British in 1795, there may have been less dependence on political division, and more on the weakness of the Dutch garrison, but still the political cause was there.

In the West Indies, every island was politically divided against itself, and advantage of this circumstance was taken in 1794 by the expedition under Admiral Sir John Jervis, and General Sir C. Grey, that remarkable instance of union between the commanders of the sea and land forces which made a clean sweep of the French possessions.

Thus, although all the conditions of military success which we have seen to be necessary were present in the attacks by which French ports were wrested from the hands that held them, some dependence was always placed on the military support which it was supposed might be drawn from the political feeling of a portion of the population. When this feeling turned, or was suppressed by a majority of opponents, the military force which had been supplied was found insufficient, and the places fell back again into the hands of the French Republicans.

The surrender of Toulon by the French Royalists to Lord Hood was an exaggerated instance of the principles now set forth. The

idea in accepting it was that the political views of the Royalists might dominate, and an insufficient supply of military force to hold the place was provided. Had it been otherwise, had we recognized the unchanging rules which governed these cases, and sent out a garrison strong enough to hold the place, apart from all dependence on politico-military support, resting its supply upon the sea as we had learned to do by Barcelona and other Spanish ports in the War of the Succession, the whole course of European history might have been changed. As it was, the Royalist cause grew weaker and not stronger as had been expected, in the South of France, and Toulon was evacuated by the British as an effect of that miscalculation.

Corsica comes in as an illustration of the same kind. Military force, resting in a great measure on the belief that political opinion in the island was convertible into the same instrument of war, made its conquest. An undue dependence on political opinion left a fleet in the Mediterranean which was unable to hold its own, and a small garrison in the island face to face with a hostile population. The evacuation of the island and of the waters surrounding it was the necessary consequence.

Precisely the same sort of thing went on in the West Indies. In the absence of any naval force to hinder it, and with a section of their populations to assist, Martinique, St. Lucia, Guadaloupe, and several ports in St. Domingo, fell easily in 1794 to the sufficient forces brought against them, though Martinique had resisted insufficient forces the year before. But the British hold on most of these places began to relax from the moment its grasp had closed on them. Guadaloupe was the first to feel the result of dependence on political opinion. Captured on the 20th April, a very small reinforcement of the Republican party thrown in on June 5th, was sufficient, even under the eyes of superior British force, to drive the garrisons out of the island by December 10th. Tiberoon in St. Domingo was recovered by the French in the same way and in the same month of 1794. By June next year, St. Lucia had followed the example set, and the insurrections in St. Vincent, Grenada, and Dominique had well nigh carried those islands.

For these reasons, and because, except in the case of Corsica, the command of the sea was assured, there will be no need to dwell at length on the examples of territorial attacks found in the annals of the French Revolutionary and Napoleonic wars. So far as they go, they contradict nothing of all that had gone before in

illustration of the rules of naval warfare, and the only new lesson which can be drawn from them is the distrust which ought to govern all ideas of dependence on political, as convertible into military, power.

But an exception must be made in regard to the great expedition of Napoleon into Egypt, already alluded to in a former chapter,* and this for the reason that the real bearings of the transaction are so often misapprehended at the present day.

Reverting, then, to the War of American Independence, I take, as an example of the power of even inferior sea-forces to prevent the success of territorial attacks, the relief of Newport in 1778.

The story is well told by de Lapeyrouse Bonfils :—

The Count d'Estaing, after having examined the coast of Virginia, proceeded to the entrance of the Delaware. Contrary to his expectation, he saw neither Howe nor Clinton. Provoked by this accident, which withdrew from him a glorious opportunity, d'Estaing made sail for Sandy Hook. In spite of foul winds, he appeared on July 11th before the port, and at once made preparations for attack.

Howe was at anchor inside the bar with 9 sail of the line, carrying 584 guns, while d'Estaing had with him 12 sail of the line carrying 856.

Howe, surprised and ill-placed, found it impossible to offer a satisfactory resistance. The sole obstacle which met d'Estaing was the bar which connected Long Island and Sandy Hook, and which it was necessary for his ships to pass. At high water the operation was practicable; the Count d'Estaing promised a hundred thousand crowns to the pilot who would act. The *coup de main* accorded with his character, and he knew that at the opening of a war, such an attack sufficed to draw fortune to the colours. The American pilots, with whom he took too much counsel, either from ignorance on their part, from disaffection, or want of zeal, dissuaded him from the enterprise. They made out that several of his ships drew too much water to pass the bar; in consequence, d'Estaing weighed his anchors on July 22nd, and dropped them again some miles on the side of New Jersey. He provisioned and reappeared before Sandy Hook. The tide and wind suited to cross the bar, but although daring, the Count d'Estaing wanted that ready audacity which despises the rules of prudence to follow the dictates of genius. As at first, the pilots diverted him from his object.† One consideration, however, appeared to justify his circumspection. The arrival of Vice-Admiral Byron with a powerful fleet had been reported, and might it not have been feared that he would find himself placed between the latter and Admiral Howe? However, the Americans, after the ill-success of the plan arranged at Paris, had fixed their attention on Rhode Island. For the accomplishment of this design, from which they anticipated the most important consequences, the concurrence of Count d'Estaing was considered necessary. Washington and Lafayette undertook to negotiate with the French Admiral, and on his favourable reply, Congress appointed Sullivan to conduct the enterprise.

* Chapter X.

† M. Chevalier (pp. 112, 113) points out that d'Estaing had the passage sounded by one of his officers, who found only twenty to twenty-two feet of water on the bar.

Count d'Estaing quitted Sandy Hook and stood for Rhode Island, where he arrived on 29th July. Sullivan proceeded to encamp near Providence. D'Estaing first anchored at Brenton's Ledge, five miles from Newport, and occupied the three passes into the river. On the 8th August he got under sail, and, in spite of the fire from the enemy's batteries, penetrated as far as Newport, and entered the bay of Connonicut. On this sudden approach the English were seized with panic, and without dreaming of offering resistance, burnt the frigates *Juno*, *Flora*, *Lark*, *Orpheus*, and *Cerberus*, two corvettes and several magazines.

Meanwhile Admiral Howe, favoured by circumstances, from a defensive passed to an offensive attitude. Byron's squadron, on making the coast of America, was dispersed in a gale of wind. Four of his line-of-battle ships, driven by the gale, made for shelter at Sandy Hook, and reinforced the British squadron there.*

From this moment Howe, finding himself in strength, and knowing the importance of Rhode Island, prepared to subvert the projects of the Allies. His spies kept him informed of the position which the French squadron had taken up for the attack on Rhode Island. Well understanding those waters, he knew that, where anchored, the French could only weigh with a northerly wind, which during the month of August seldom prevailed on that coast. Howe consequently weighed, and appeared on August 9th off point Judith. The wind blew from the sea; at the moment when he was most certain of the success of his arrangements, it suddenly changed, and blew from the northward.

Count d'Estaing on his part, observed the enemy, and determined to proceed to attack him should the wind allow. When the northerly wind sprang up, d'Estaing hastened to weigh, and with a good breeze from the northward he bore down upon Admiral Howe on the 10th. The latter who, with two ships of the line less than d'Estaing, did not feel himself in a state to accept the battle which his impetuous adversary offered, soon stood away to the southward, in hopes that the wind might come from that quarter, which everything seemed to promise. The two fleets manœuvred for a day and a half, the one to bring about, and the other to avoid, battle. It was now the 11th, towards five o'clock in the evening. A few hours more, and a general action would perhaps decide the fate of America. The wind, which had been freshening since the morning with continual rain, blew hard as the evening wore on, and ended during the night between the 11th and 12th in a terrible gale. Howe, who had his flag in a frigate, the better to direct the movements of his squadron, was separated from it, and his ships found themselves dispersed.

Count d'Estaing was still more unfortunate. The *Languedoc*, which carried him, lost her rudder and all her masts. Others of the French ships suffered much in their masts and rigging. After the gale, which lasted forty hours, dangers not less great threatened some of the ships of our squadron. The *Languedoc*, wandering at the will of the waves, was attacked by the *Preston*. The *Marseillais*, nearly as much damaged, had a brush with the *Renown*. It required all their courage to escape the two adversaries, and the wind having fallen light, all the ships joined Count d'Estaing at Newport.

Under any other circumstances, the route taken by Count d'Estaing would have been proper; but he had received news of the junction of Byron with Howe. This certainly was more than sufficient to prevent him from committing an act of rashness without excuse. In vain his captains implored him to give up the enterprise. The sole reason which he offered in refusal was the word of honour given to Sullivan that he would

* My author is not quite accurate here. Before the 28th July the *Renown*, 50, had arrived from the West Indies; on the 28th the *Raisonable*, 64, joined from Halifax; and on the 30th the *Cornwall*, 74, and *Centurion*, 50, of Byron's fleet came in. See Hervey, vol. v., p. 552.

return to Newport. D'Estaing forgot that in such a case his promise was only relative, and could not bind him; but like all his race he was, so to speak, superstitious on the point of honour, and almost put this chivalrous sentiment above the interests of his country. He exposed eight thousand men and twelve ships of the line to satisfy it. However it was, d'Estaing anchored at Rhode Island and saw Sullivan, who informed him of the presence at Sandy Hook of the combined fleets of Howe and Byron. Unable longer to co-operate in the reduction of the place, understanding all the danger of his position a few leagues distant from a fleet much superior in numbers to his own, of which most of the ships were defective aloft, Count d'Estaing informed Sullivan of his intention to proceed to Boston to refit. The American general, who had just received reinforcements, was in despair at the news. "Land," he said to the French Admiral; "you promised. Your departure will hand us over to the English. Land; honour and friendship alike compel you." The Marquis de Lafayette was still more pressing; but the preservation of his squadron was so absolutely bound up with its departure from Rhode Island that Count d'Estaing did not consider it his duty to yield to such solicitations. Besides, the conduct of Sullivan in the matter was not at all calculated to retain him. The General, by his proposals as much as by certain equivocal acts, was suspected of having intelligence with the enemy. He did not like the French: and when Count d'Estaing made sail for Boston, he did not fear to outrage our national character in passing the word amongst his troops that the French were traitors, insolence which was repelled with the spirit which it demanded, by the Marquis de Lafayette.

The arrival of the French squadron at Boston, which took place on August 25th, and its retirement from Rhode Island, sowed disunion between the Allies, and was the pretext for many vehement struggles. England gained new partisans in the insurgent provinces, and the raising of the siege of one of her principal fortresses.*

In this example, we see again that the neighbourhood of a superior fleet is destructive of all idea of territorial attack carried on from the sea, even where, as in the case of Newport, the main attack is from the land, and depending on the land for reinforcement and supply. The necessity of d'Estaing's retreat from Newport was made absolute by the junction of Howe and Byron, yet it was a necessity not recognized by either Lafayette or Sullivan, so easily are the fundamental axioms of naval war misunderstood by those who do not feel their control.

This, however, was the action of a superior naval force. We have to recollect that Newport had already been relieved by the presence of an inferior naval force. It was Howe's smaller fleet which drew away d'Estaing from Newport in the first instance, and could evidently have done it again and again in the same manner. The French account does not credit Howe with any desire to offer battle to d'Estaing, but the English accounts tell us that he intended to risk a battle if he could have the weather gauge, and that even failing it he had drawn his fleet into line of battle, and prepared to attack in the leeward position when the

* Lapeyrouse, vol. iii., p. 45; see *à'zo* Troude, vol. ii., p. 12; Chevalier, p. 3; Hervey, vol. v., p. 550; Schomberg, vol. i., p. 447.

fleets were separated by the gale. Had a battle ensued, Newport would still have been relieved, for d'Estaing, even as victor, must have gone to Boston to refit after such a struggle.

D'Estaing, however, clearly played a bad game, and deserved to suffer the contumely which the Americans poured upon him. Having Howe safe at Sandy Hook in inferior force, he should never have lost his grip of him when there were designs against Newport. An inferior, or at least an equal force, would have probably been sufficient to mask him in his own awkward position behind a bar, and then d'Estaing might have sent the remainder of his ships to co-operate with Sullivan against Newport, certain that, at least as far as Howe was concerned, there would be no interference from the sea. If, however, d'Estaing had considered that he was not strong enough so to divide his fleet in this way, he should have informed Sullivan of the impossibility of his co-operating at all except by way of masking the English fleet. But had he divided his fleet, or had he confined himself to masking that of Howe, we have seen how fortune might have befriended him. Very possibly he might have made prizes of every one of the four ships which put into Sandy Hook, and reinforced Howe.

It was not till October that Byron had collected sufficient force to attempt the blockade of d'Estaing in Boston, but then a storm again dispersed his ships, and enabled d'Estaing to slip out and proceed to the West Indies.* This he did on November 3rd, and on the same day Commodore Hotham sailed from Sandy Hook for the same destination with a squadron of war-ships and 60 sail of transports carrying, 5,000 troops under Major-General Grant, for the defence of the West Indian Islands, or the attack of the enemy's possessions there, should the conditions allow. The two fleets were for some time close together without either being aware of the other's presence, and both met the same gale of wind, which proved more damaging to the French than to the English, dispersing the former, but enabling the latter to arrive at Barbados in safety.

Rear-Admiral Barrington, who commanded on the Leeward Islands station, was in such weak force that far from being in a position to undertake offensive operations, he had been unable to

* "Le Comte d'Estaing, réduit à l'inaction par la supériorité de l'ennemi, n'attendait qu'une occasion favorable pour se rendre dans les Antilles. Profitant de l'éloignement des Anglais, il fit route pour la Martinique."—*Chevalier*, p. 121.

prevent the fall of Dominique on the 7th of September to the arms of the Marquis de Bouillé.

But when Hotham joined him it was at once determined to make an attack on St. Lucia. Before such a determination was come to, we may be sure that the strategical conditions were well considered by the two chiefs. As Hotham and d'Estaing had sailed from American ports on the same day, it seems certain that Hotham must have informed Barrington that d'Estaing was safely masked by the superior fleet of Byron. Interruption from the sea was so far not to be feared, and it might well have been supposed that even did d'Estaing manage to escape, Byron would have been so close upon his heels as to paralyze his motions.

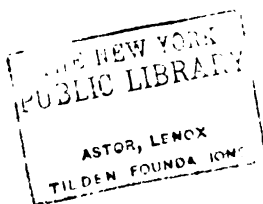
The sequel presents one of the most remarkable stories in the whole range of territorial attacks from the sea, showing on the one hand the extreme hazard of such attacks unless the command of the sea is fully assured beforehand, and on the other, the possibilities of successful resistance even in the most desperate extremities.

Barrington's squadron, now consisting of 7 sail of the line, 2 frigates, and a sloop, conveying the army in its transports, arrived off the island on December 13th, and on the same day Brigadier-Generals Meadows and Prescott landed in different parts of the grand *cul de sac* with a considerable body of troops, while Brigadier-General Sir Henry Calder protected the landing-place to keep open a communication between the fleet and army. There was no opposition to the landing, and the troops marched at once on the fortress of Morne-fortuné, the only land defence of the Rade du Carénage, which they took.

The gale of wind, from which the French had suffered most, might, however, have been most favourable to them, had skill or fortune allowed it. D'Estaing fell in with and captured three of Hotham's transports, from which he learnt the news of his sailing for the West Indies, and of his force, but not of his exact destination. He wrongly concluded it to be Antigua, and bore away for that island, off which he cruised for some days, and then, disappointed at seeing nothing, he made for Martinique, where he arrived on December 6th, a week prior to Barrington's arrival at St. Lucia. My authorities do not say whether Barrington had early notice of d'Estaing's arrival, but as soon as he became aware of his presence, he placed all his transports at the bottom of the Baie du Carénage and drew his ships up in line across the



A the Road leading to the Vigie. E Admiral Byron's Fleet.
 Martinico. T Traverses thrown across the Road leading to



entrance, covering each flank by the erection of batteries and the mounting of guns.

The Baie du Carénage on the east coast of the island is entered from the west. The entrance is not more than 200 yards wide. Rocks surround the two points of this entrance, which is still rather narrowed by a shoal which extends from the south point to the W.N.W. The depth of water varies from four to seven and a half fathoms in this passage. Inside the north point, at about 550 yards, is a second point, also surrounded by rocks; Morne-fortuné is in the direction of and at a small distance from this point. Its guns protect at once the road, its entrance, and the *cul-de-sac*, an inlet perfectly sheltered from the north and at the bottom of the bay. . . .

On the 14th, in the morning, Vice-Admiral d'Estaing had intelligence of the attack directed against St. Lucia; he at once embarked 6,000 troops, and in the afternoon got under weigh with 11 sail of the line, a twelfth, the *Marseillais* joined him next morning.

On the 15th, in the morning, the squadron arrived off the Baie du Carénage.

The intention of the Commander-in-Chief was to get alongside (élonger) the English line from north to south; to anchor a ship abreast of each one of the enemy, and to authorize the captains to board their adversaries if they judged it prudent. In case of the depth of water being too great to anchor, he hoped to get positions inside the English line. The circumstances of wind, and the position of the enemy might, however, modify the plan of attack. The *Sagittaire* (50) and the frigate *Chimère* had orders, in any case, to attack the battery on the south point; the *Provence* (64) and the *Vaillant* (64) were charged to silence the guns on the north point. The wind was light from the eastward. The French squadron passed along the English line, engaging it and receiving the fire of the batteries on shore; but it did not anchor; it continued under sail, and in the evening renewed the attack of the morning. On the 17th d'Estaing anchored in the Creek du Choc, landed the troops and directed them upon Morne-fortuné, distant a few miles only from the anchorage. The squadron subsequently (on the 24th) got under sail again to renew the attack on the English division; but the lightness of the wind interfered with the projects of the Commander-in-Chief, and in the evening he returned to the anchorage. The expedition by land did not succeed. The troops were embarked on the 30th, and the squadron returned to Martinique. The governor of St. Lucia capitulated on the morning of its departure.*

This occurrence, so striking in its contrasts, requires some little examination before we can look at it with the view of drawing out its lessons. A century ago these would all have been obscured by the pæans to be sounded in praise of the English skill and courage. Now we should be foolish to take that line. We should rather reflect on the greatness and imminence of the risks that were run, and treasure them up in order that in the time to come we at least might know how to avoid them in like cases.

In the first place, the coincident sailing of Hotham and d'Estaing and their near neighbourhood *en route* to the West Indies, suggests that good fortune, and not skill, enabled Hotham to get to the West Indies at all. Then Lapeyrouse justly points out that when

* Troude, vol. ii., p. 17. See also Lapeyrouse, vol. iii., p. 53; Chevalier, p. 125; Schomberg, vol. i., p. 451. The illustration, from a contemporary print in the Royal United Service Institution, gives a capital idea of the position.

d'Estaing ascertained the truth from the captured members of Hotham's convoy, he had in his hands the greatest of opportunities had he chosen to use it.

On the evening of the capture of these three transports, the wind was E.S.E., Antigua bore S.W. In running to the southward for twenty-four hours he had a chance of meeting the convoy, or he would have assured himself in missing it, that its destination was not Barbados. Then, being in the latitude of Antigua, he might have run before the wind for that island, and in the morning he would have picked up the convoy before their arrival. Another important consideration should have determined him. Barbados, by its position to windward, dominated the other islands; it was presumable that the enemy would profit by the favourable wind to proceed to an anchorage there, because from this point it could distribute its forces according to convenience.*

But then it seems strange that Barrington on his part should have made no attempt, by cruisers, to ascertain whether the coast was clear before he advanced upon St. Lucia. Fort Royal in Martinique was the known head-quarters of the French navy in the West Indies, and it was but 120 miles from Carlisle Bay in Barbados. It was not more than 60 miles from the south point of St. Lucia, and d'Estaing was at Fort Royal a full week before Barrington arrived off St. Lucia. But again d'Estaing lost his chance a second time by not dispatching cruisers towards Barbados to ascertain whether that had been, after all, Hotham's destination. Had he done so he might have caught Barrington half seas over, when his total destruction might have been easy. From the moment of leaving Sandy Hook, until the moment of landing at St. Lucia, the English force therefore had been running a series of immense risks, which even the doctrine of chances left it imprudent to run.

Quite possibly Barrington and Hotham's minds were dominated by chagrin at the loss of Dominique, and were full of the example which the French seemed to have set them in that success. But the capture of this island by the Marquis de Bouillé had been in the nature of a snap-shot. Its nearness to Martinique had always left it and St. Lucia peculiarly open to sudden *coups de main* by troops alone, and nothing but the blockade of Fort Royal by sea could prevent such attacks being made. De Bouillé had taken the island with 2,000 men, suddenly thrown into it, under the escort of no more than 3 frigates and a corvette. The expedition sailed after sunset on September 6th, the troops landed early next morning, and immediately occupied positions which commanded the capital of the island, and the governor capitulated the same

* Lapeyrouse, vol. iii., p. 57.



day. Barrington, on learning what had happened, sailed to defend the island, but found the French flag flying everywhere.

He returned to Barbados [says Chevalier], awaiting with the keenest impatience the reinforcements from America, of which he had been informed. He proposed to attempt some operation, the success of which should diminish the effect which the loss of Dominique would produce in England. Ignorant that the Count d'Estaing had quitted Boston, he considered himself in command of the sea, and, in consequence, free to go wherever he thought proper. He cast his eyes on St. Lucia, the possession of which would be of peculiar value to the British navy.*

Where he was in error, then, was in not making more sure of his ground, by the use of cruisers to Fort Royal, before proceeding in his expedition. Where he was fortunate was in selecting so defensible a post as that in which he had moored his squadron. Had he been forced to anchor in an open position, he would at least have courted a terrible disaster.

Even as it was, we can only note that d'Estaing with a force so greatly superior could and ought to have destroyed Barrington, but he made no determined attack on him. The two cannonades were really distant affairs, without effect on either fleet. Chevalier tells us why, after the abortive attempt of the 24th, the attack was not renewed. D'Estaing, on the 28th, learnt that Admiral Byron was expected at Barbados, and that consequently his command of the sea was threatened. It must also be said, on the side of d'Estaing, that the attack of ships properly disposed under cover of batteries had always been considered extremely hazardous; and we have, in the course of these chapters, observed that in such cases it was generally considered necessary to get possession of the batteries in the first instance. D'Estaing did not reach the island until it was practically in the hands of the British, and the attacks he attempted were in the nature of those on an assured British possession. D'Estaing was shortly to prove his case by exhibiting himself in the position of Barrington, while forcing Byron to occupy that of the French Admiral, and to fail very much as he did.†

D'Estaing's information as to Byron had not been absolutely correct. He did not join Barrington until the 6th January 1779, and then it was at St. Lucia that the junction was formed. On the 11th, d'Estaing's frigates counted 15 British sail of the line

* P. 125.

† It is proper to observe that my criticisms on the English success and the French failure at St. Lucia agree with those offered by Lapeyrouse and Chevalier. The latter quotes Suffren, who commanded one of d'Estaing's line-of-battle ships, to the same effect as to the sea attack.

at anchor at St. Lucia, which left him in a position of inferiority as to force. On the 19th he was joined by 4 sail of the line from France, under Count de Grasse, but Byron was about the same time joined by 4 sail of the line under Rowley. D'Estaing felt himself constrained to remain on the defensive, and presumably Byron did not consider himself strong enough to make any attack, and the weeks and months rolled on.

On April 26th, Rear-Admiral de Vaudreuil joined d'Estaing with 2 sail of the line, and a third had arrived the evening before with a convoy. And then, on June 27th, the arrival of Rear-Admiral Lamotte-Piquet with 5 sail of the line, 3 frigates, and 60 transports loaded with troops, put d'Estaing in a position to operate on the offensive.

I have not yet succeeded in getting a clue to the methods sometimes pursued by our admirals in the West Indies when making St. Lucia their head-quarters and ostensibly watching Fort Royal, Martinique. I do not know of anything which should have prevented such a watch upon the port as would either have brought on a general action, or intercepted these constant reinforcements of the French. It seems difficult to believe that the principle of blockade, which had been so well understood and carried out in European waters by Hawke, should, though its application there was at this time impracticable, have been altogether forgotten, yet I have not so far been able to discover any other explanation. D'Estaing was allowed to pass from inferiority to superiority, with the result we are to note, without apparently any attempt to prevent the growth of his force in what we ought really to call now the usual way.

Early in June a considerable fleet of British merchantmen homeward bound was assembling at St. Christopher's to wait convoy. Byron, with, as far as I have ascertained, the alternative of blockade before him, chose to secure the safety of the convoy against d'Estaing, by himself accompanying it with his whole fleet. He proposed to make, with reference to d'Estaing, we may observe, a similar mistake to that which d'Estaing had made with reference to Lord Howe at Sandy Hook. Having the enemy in view, he should have kept him in view, being assured of the safety of the convoy as long as this was so. If d'Estaing was to be fought, it would be much better to fight him when unimpeded by the care of a convoy. If Byron, in his care of the convoy, were to quit West Indian waters, he left it open to d'Estaing to make any attack which the probable duration of his absence might warrant.

Byron sailed from St. Lucia for St. Christopher's, to the north, with his whole fleet on June 6th, and d'Estaing, being well informed of all the circumstances, began operations by despatching a small force to the south for the capture of St. Vincent. In doing this, d'Estaing was entirely within rule. The Caribbee inhabitants of St. Vincent were in revolt against the English garrison, which only numbered 300 men. The chiefs of the Caribbees had solicited the help of the French, and there was every reason to suppose that once landed, the French troops could possess themselves of the island and hold it, without need of maintaining communication over sea. So the naval part of the expedition consisted only of 3 corvettes and 2 schooners, carrying no more than 400 troops, and the whole under the command of Lieutenant de Vaisseau Frolong du Romain. He sailed from Fort Royal on the 9th of June, arrived in sight of St. Vincent on the 17th, landed his troops, received the expected help of the Caribbees, and the surrender of the island next day.

This was a small matter, but one which could only have taken place in the absence of Byron, and for which his absence was therefore directly responsible. But d'Estaing had larger business before him when the ships and troops already spoken of reached him on the 27th of June. He took the troops on board his fleet, now consisting of 25 sail of the line, and on June 31st made sail for Barbados. He must have been well aware of the risks he was running. He probably knew that Byron had under his command now 22 sail of the line, though they might not be all with his flag. Byron had already been more than three weeks absent to the northward, and it was not easy to say how soon he might reappear. The French ships, crowded with troops, would have been much hampered in a general action. If they were in sufficient force to conquer the island, the main point was to get them on shore at once, and to be ready to meet Byron at sea in superior strength should he attempt to interfere.

The direction of the wind was such that d'Estaing found he could not fetch Barbados. The pressure of the above consideration was upon his mind, and he stood for Grenada. On the 2nd July he anchored near Beauséjour Point, a little distance from George Town, the capital of the island.

On a height which commanded the town, the English had established an entrenched camp, armed with heavy guns. This position, known under the name of Hospital Hill, was occupied by a detachment of regular troops and militia—about 800 men. The Governor of Grenada, Lord Macartney, supposed it impregnable, and he had placed there everything that was most valuable in the colony. He himself occupied a fort

between Hospital Hill and George Town. Count d'Estaing, expecting the arrival of Admiral Byron, wished to recover his liberty of action as soon as possible. He determined to make himself master of the entrenched camp by a *coup de main*, as he considered it the key of the position.* Immediately after sunset, the expeditionary corps, divided into three columns, commanded by Colonels Arthur and Edward Dillon and de Noailles, were put in motion. In order to divert the enemy's attention, a demonstration was made in the evening against an English post facing the sea, in which some of the ships of the squadron took part. Towards eleven o'clock, our troops silently climbed the steep slopes which led to the summit of the hill. Although the English had accumulated obstacles, such as pallasades and stone walls, nothing was able to check the ardour of our troops. D'Estaing, sword in hand, was amongst the first to leap over the enemy's entrenchments. After a sharp but short struggle, the English laid down their arms. On the 4th, at break of day, Count d'Estaing fired a few shot into the fort where the Governor was placed. Lord Macartney, knowing that all resistance had become vain, sent an officer to treat of capitulation. The proposals which he made to Count d'Estaing being rejected, he surrendered at discretion. One hundred and two guns, sixteen mortars, three flags, provisions, stores, thirty merchant ships, fell into our hands. On the 5th July, the troops which were not required to occupy the town and the forts were re-embarked.†

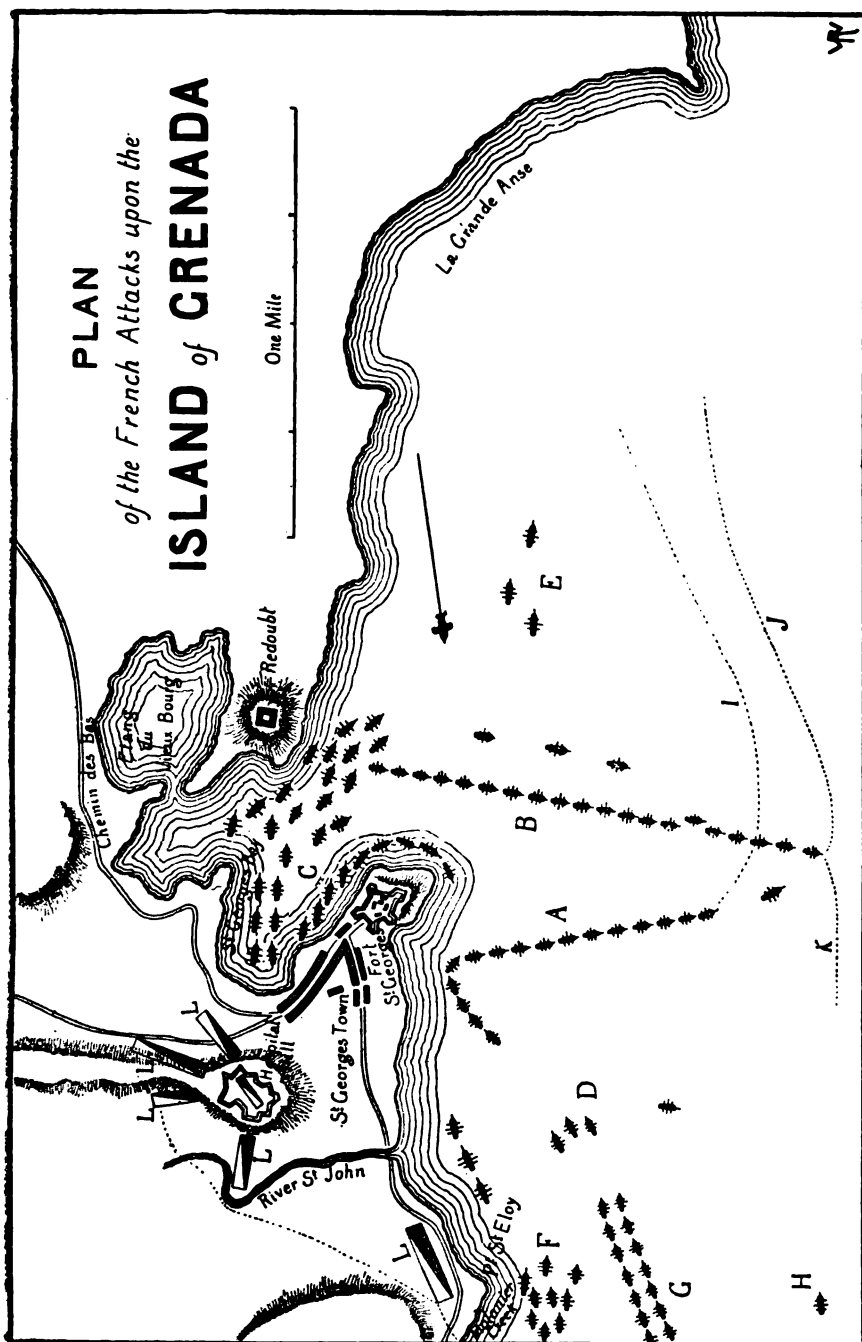
Byron returned to St. Christopher's on July 1st, and immediately heard the news of the fall of St. Vincent. He at once decided to make an attempt for its recovery, and sailed with 21 or 22 sail of the line, and 28 transports carrying troops for landing, when he learnt, from a cruiser which had been in search of him, that Grenada was attacked. He pushed on for that island, with the hope of defending it if there was yet time.

D'Estaing had heard, on the night of the 5th of July, that Byron was approaching, and had given orders to weigh at four o'clock next morning. At break of day the two fleets saw each other. Byron saw the French standing out to sea from St. George's Bay, their force not being then ascertained, but believed to be not greater than his own. Supposing that the French Admiral was anxious to avoid an engagement, he made signal for a general chase, and then, more aware of what was before him, a signal for close action. In the result, and owing in part to the fact of several of d'Estaing's ships which had been under weigh all night finding themselves to leeward, and also to the fact of Byron's discovering that Grenada was gone, the action was only partial. Byron lay-to for the night, and d'Estaing went back to his conquered anchorage in St. George's Bay. Byron had lost Grenada and was in no condition to recover it. He took his damaged fleet back to St. Christopher's.‡

* It must be borne in mind that d'Estaing was commander-in-chief by land as well as by sea.

† Chevalier, p. 135.

‡ Schomberg, vol. i., p. 470; Troude (whose account is a bad one), vol. ii., p. 62; Lapeyrouse, vol. iii., p. 88; Chevalier, p. 123.



A Admiral Byron attacking the French Fleet the 6th of July. B French Fleet. C French Fleet cannonading the Fort. D Ships left to protect the Transports. E Disabled French Ships. F French Transports the 2nd of July. G English Transports. H French Ships the 4th at night who gave the alarm of Admiral Byron's approach to the French Fleet. I English Fleet tack to save the disabled ships left behind. J French tack to the southward. K Manoeuvres of the French to cut off our transports from the Fleet. L French troops attacking Hospital Hill.

THE
ACTOR, L. R. F.
THE NEW FOUNDATION

Except that d'Estaing acted with his eyes open to the risk, and was superior in the attack on Grenada, while Barrington acted with his eyes shut, and was inferior in force at St. Lucia, the cases lie nearly on all fours. In the detail that Barrington after possessing himself of the commanding works, chose to meet the enemy at anchor, while d'Estaing chose to meet him under weigh, there is a difference, but the results and the main points were identical. The game on Barrington's part was a risky and a daring one, but there was no other, with his inferior force, for him to play. D'Estaing was playing the wrong game. It was clear that he might have kept himself superior to Byron, and his proper play was to beat him at sea. As it chanced, his bad play succeeded, but if Hospital Hill had been able to defend itself only for a day or two, the French might have lost their whole army. Byron and the forts of Grenada together were more than a match for d'Estaing, and the latter could never have embarked his troops had the anchorage in St. George's Bay been available for Byron. But as it was, Grenada was an enemy's country when Byron sighted it, just as St. Lucia had been an enemy's country when d'Estaing sighted it, and nothing could be done in presence of existing forces.

The extracts which Chevalier gives from Suffren's letters, written at the time, are of the fullest value when we remember that Suffren's strategy in the East Indies was the greatest condemnation of d'Estaing's in the West. Suffren seems to have been clear that gallant as d'Estaing undoubtedly was, he was less a seaman than a soldier, and did not at all understand the elementary principles of naval war.

As a contrast to this defective strategy in making territorial attacks, it may be useful to pass at once to an example of more perfect strategy which was carried out by de Grasse in 1781 against Rodney.

In December 1780, the latter officer had arrived at St. Lucia from New York, and there being no sufficient naval force to oppose him, he arranged and carried out several territorial attacks. The arrival of Sir Samuel Hood from England raised his strength to 21 sail of the line, and the intelligence that war had been declared against Holland, gave him the opportunity of making conquest of the important island of St. Eustatia and its dependencies before the Dutch authorities had recovered from their astonishment at being summoned to surrender. But when he proceeded on this service with his main strength, he took care to mask the five

French sail of the line and frigates, which were at anchor in the bay of Fort Royal, at Martinique.

Rodney and General Vaughan now proposed to follow up this blow by an attack on Surinam and Curaçao, but on 11th of February, news came that a French squadron of 8 or 10 sail of the line and frigates had been seen steering for the West Indies. Rear-Admiral Drake was then with 6 sail of the line carrying out the blockade of Fort Royal, already mentioned. Rodney, in view of the strategical conditions that Drake in weak force would be between two fires, but in strong force might be able to strike a blow at the approaching enemy, sent Sir Samuel Hood to take command of the blockade of Fort Royal with additional line-of-battle force. Having soon reason to believe that the approaching force was greater than had been represented, he sent further reinforcements to Sir Samuel Hood which raised his fleet to 18 sail of the line, while Rodney remained at St. Eustatia with the remaining 3 or 4.

Rodney, however, was misinformed as to the strength of the approaching fleet. It was 21 sail of the line under Count de Grasse, convoying a merchant fleet of 200 sail, and carrying 6,000 land troops with a formidable artillery. The two fleets came into contact close to Fort Royal on the 29th of April, and the 5 French sail of the line in Fort Royal were able to get out and take part in the ensuing action. De Grasse, with such great superiority ought to have crushed Sir Samuel Hood; but, as it turned out, there was a partial action only, in which the French were the greatest losers in men, though many ships of Hood's fleet were badly damaged, and Hood was forced to proceed to St. Christopher's to join Rodney and to refit. The junction took place after the 9th of May, and the whole fleet proceeded to refit and supply at Antigua.

The command of the sea had thus passed entirely out of the hands of Rodney, and if de Grasse had been unbiassed in his views of the consequences, it is plain that he should have followed up Hood to the northward, and made immediate use of his superiority in a determined attempt to crush Rodney altogether. But French commanders seldom understood, or at any rate acted on, the plain principles of strategy. Even when numerically superior, their strategy was that of the inferior force, which tried to gain advantages by means chiefly of evasion.

Rodney concluded that this would be the immediate action of de Grasse, and he felt all the inconvenience of being to leeward

with a partially disabled fleet. He assumed that St. Lucia would be attacked, and sent letters to its Governor and to the senior officer of the ships there, that he was making all haste to come to their relief.

Rodney's surmise was correct. The military expedition, consisting of some 1,200 men under the Marquis de Bouillé, sailed from Fort Royal on the 9th of May, the same day that Hood had rejoined Rodney, and at once landed at several points at St. Lucia. On the 12th de Grasse supported, by appearing in Grosse Ilet Bay. But in the end the troops were embarked and the enterprise abandoned, and three separate reasons have been assigned for a circumstance that certainly wants explanation. It is said, first, that de Bouillé found the place too strong for him; secondly, that he found he could not secure himself in his conquest if he made it, for several weeks; and thirdly, that the whole attack was a mere feint to divert Rodney's attention from the real point which was to be struck at.

There may be some reason in this last assigned cause, as well as in the two first; for on the same day that de Bouillé sailed for St. Lucia, a force of 1,300 troops, under convoy of 2 line-of-battle ships and some frigates, was despatched direct to Tobago in order to effect its capture before any relief to it could come over sea.

If the chart of the West Indies be referred to, it will be seen that with Rodney at Antigua, de Grasse at Martinique, still numerically superior, and Tobago 200 miles, if not dead to windward, at least slow of approach from the northward, it becomes plain that the blow was well aimed. And then, too, it may be seen that the attack was in a sense covered by de Grasse's position, for he might reasonably expect to know when Rodney should proceed to the southward. After the withdrawal of de Bouillé from St. Lucia the troops re-embarked were sent after the first instalment, and de Bouillé either then went with them, or followed, while further troops for the attack, said in some of the accounts to reach 3,000 men, were pushed on.

Rodney had news of the attack on St. Lucia immediately after his quitting Antigua, but not, it is said, of its abandonment. That news reached him when he was near Barbados, and it follows that he either believed in the capacity of St. Lucia to repel attack, as it is said,* or else he abandoned it to its fate in his fear of what might happen to Barbados. He had no idea whatever that Tobago would be attacked. But it may be that want of water, and the

* Beatson, vol. v., p. 190.

necessity of landing his sick, as is also alleged, determined him to make for Barbados on his way to St. Lucia, Barbados not being so much out of the way as it appears on the chart, because of the prevailing winds. He made detachments of a line-of-battle ship, a frigate, and several small vessels, to St. Lucia, fearing another attack on it, and thus weakened his own force.

It was on the 23rd of May that Rodney anchored in Carlisle Bay, Barbados, and it was on the 27th that he first heard of the attack on Tobago, and the naval force mentioned was only that which convoyed the first detachment of troops. Rodney detached Drake on the 29th with six sail of the line and a land force, to succour Tobago, but had no sooner done so than he heard that de Grasse's whole fleet had been steering a course for Tobago. Very soon afterwards letters from Drake informed him that 20 sail of the line of the enemy were already at Tobago when he arrived there. This intelligence reached Rodney on June 2nd, and he put to sea with all his force on the 3rd, and was joined by Drake the same day. But de Grasse had already reaped the reward of his strategy. Rodney learnt on the 4th that Tobago had capitulated, and on the 5th his look-outs observed the French, fleet consisting of 24 sail of the line and 5 frigates, steering towards Grenada. Rodney had with him but 20 sail of the line, and did not care to risk an action except under more favourable geographical conditions than existed at the time. Tobago no longer flew the English flag, and the operation was over.

It must again be observed that though de Grasse's strategy on this occasion was good, and so far deserved success, it was not perfect. It was, as I have said, the strategy of the inferior force, and he ran the risk of having his detached force cut off before he could succour it. Not, indeed, that detaching a force was wrong in itself; it was the proper policy of the inferior naval power, where the risk was worth running for the sake of the reward. The danger was in not keeping closer touch between his own and Rodney's fleet; had he done so, his detached force would have run but little risk. Rodney, as we have seen, anchored in Carlisle Bay on May 23rd. De Grasse did not sail from Martinique till the 25th, the French troops only landed at Tobago on the 24th, and de Grasse only reached the island on the 31st, according to de Lapeyrouse, while, according to Beatson, Drake saw them on the 30th. Nautical and civil time may possibly account for the discrepancy, but it is certain that the time element, of which I have so often spoken, was not calculated with sufficient care, and

that it was good and ill fortune, more than absolutely sound strategy, which gave Tobago to the French without a hitch in 1781.

But I think the finest piece of strategy against territory, as it may be practised by the naval commander who is not in assured command of the sea, was that exhibited by Suffren in the East Indies in 1782. This officer had found himself, by actual experiment, evenly matched by Sir Edward Hughes. He had had three pitched battles with him, one on February 16th, another on April 11th, and a third on July 6th, when each fleet had been of the same numerical strength, 11 sail of the line, but the French loss in killed and wounded had been more than double that of the English. At Cuddalore, after the last of these battles, Suffren heard of the approach of 2 sail of the line and other ships of war, as well as transports. He proceeded to meet them at Batacaloa, a port about sixty miles to the southward of Trincomalee, having taken on board 600 or 700 troops. Then for the time he was lost to the sight of Hughes, who remained refitting at Madras. On the 21st of August he was joined by the 2 sail of the line with transports, and store-ships carrying 600 infantry, and he at once conceived his plan.

In the south-west monsoon which then blew, it would, as Suffren knew, take a fleet about a fortnight to beat up from Madras to Trincomalee, while half a day was sufficient to run down from Batacaloa to the same place. If, therefore, Hughes got notice of the sailing of Suffren on the day that he sailed from Batacaloa, the French commander would have a fortnight for his operations against Trincomalee. This was one security drawn from the time element. But he now made up 15 sail of the line, while Hughes only made up 12. The risk was not excessive, even if Hughes should appear before Trincomalee surrendered, as the fleet itself was not necessary to support the attack, though some of its men and guns were. The passage was so exceedingly short between Batacaloa and Trincomalee, that there was no fear of being caught when hampered with troops and transport. Four or five days might have been taken as a reasonable time within which to effect the reduction of Trincomalee, and therefore in any case, Suffren was allowing a good margin. But he took the precaution to ascertain from the report of a cruiser which had watched off Trincomalee for the purpose, that the coast was clear before he sailed for his destination on the 24th of August. The fleet passed straight into the harbour on the succeeding day, and anchored

within the forts and out of their fire. Broad-sides had been exchanged on passing them, but with little effect. On the night of the 26th 2,600 men were landed, and on the 27th and 28th batteries were erected and armed with guns from the ships. Fire was opened on the forts on the 29th, and on the 30th the Governor of Trincomalee offered terms of capitulation, to which Suffren, not at all easy in his mind as to the possibilities should Hughes appear before the surrender was complete, lent a ready ear. The French flag was hoisted on the works on the 31st, and Trincomalee had become a French possession.

A less wise strategist than Suffren might easily have prolonged the siege for the exaction of severer terms; but Suffren knew that after all the precautions possible to be taken, there were yet adverse chances in war.

It had happened that on the 12th of August one of Hughes's frigates, the *Coventry*, had chased the French frigate *Bellona* into Batacaloa; to her astonishment she saw Suffren's squadron, with his transports, lying at anchor. Without a moment's delay she sped away before the south-west monsoon to warn Sir Edward Hughes at Madras of the danger. Hughes put to sea on August 20th, that is, four days before Suffren was ready to quit Batacaloa, and he arrived off Trincomalee during the night of September 2nd. At daylight in the morning he saw that his errand was bootless: that Suffren had outwitted him, and that the French flag had superseded the English on shore.

Suffren had only just escaped a danger, although with his numerically superior fleet it could never have been a very serious one. But a miss was as good as a mile to the French commander who, with Trincomalee secure behind him, was able to come out and fight his fourth pitched battle with his enemy. The result was, as usual, indecisive; Hughes returned to Madras, and Suffren to the shelter of his new port, Trincomalee.

Such was this famous exploit, which, with the rest of his conduct in the East Indies, has placed Suffren in the highest rank of naval commanders. We must not forget, however, that the strategy employed was only justified in the absence of force enough to carry out the masking of Hughes and the attack on Trincomalee at the same time. Perfect strategy would have required that this should have been done, and as I have now brought these normal examples nearly to a conclusion, I may usefully subjoin an illustration where the method adopted was absolutely faultless.

The case is the capture of Belleisle in 1761 by Keppel and General Hodson. Keppel sailed from St. Helens with 10 sail of the line, to be joined afterwards by 7 more. With him were a considerable body of frigates and sloops, and 100 sail of transports carrying 10,000 land forces. At the same time, Captain Buckle sailed for Brest with 12 sail of the line and 3 frigates. Brest was the only port whence any naval force capable of interfering with Keppel could issue; so that not only was he prepared by the great fleet of 17 sail that he took to Belleisle, to meet any hostile fleet likely to make an appearance, but his operations were doubly secured inasmuch as all the existing French power was masked at Brest by Buckle.

The French garrison at Belleisle was 2,600 men, so that the forces landed from Keppel's fleet were ample for the subjugation of the island; and there being no chance of interference from the sea, its surrender in time was certain. On the 8th of April the first detachment was landed clear of all batteries at Port Andeo Bay, but they were repulsed after landing by a body of the enemy who had entrenched themselves on a hill. A second landing in greater force was effected on the 22nd, near Fort D'Arsie, after its guns had been silenced by some of the ships of war, and the footing on shore was made good. M. de St. Croix, the governor, then retired into his citadel, the town of Palais, which he defended until the 7th of June, when, a practicable breach having been made, he capitulated, and Belleisle became British territory.

There is absolutely nothing to remark on this operation, except that the method pursued was as certain to produce success as any other which could be conceived. All experience had dictated what should be done, and being done, the result became a certainty.

(To be continued.)



Todleben.

A BIOGRAPHICAL SKETCH.

[The *Military Magazine* (Voyenni Sbornik) of St. Petersburg, with reference to the unveiling last June of the monument erected by the Russian Government above the mortal remains of the great engineer who defended Sebastopol, has published the following biographical sketch of his career.]

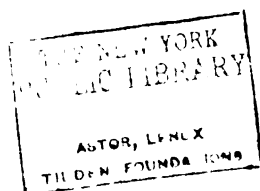


COUNT EDWARD IVANOVITCH TODLEBEN was born at Mittau on the 20th May 1818. His father, a merchant, soon after the birth of Edward Ivanovitch, removed to Riga, where he died in 1855. At ten years of age the boy was sent to the school of Dr. Hüttell, then considered the best in Riga. Already the famous defender of Sebastopol and conqueror of Plevna manifested a marked inclination for the military service, especially for the engineering branch, and, in company with his friends, used to construct various mimic works of attack and defence. His father, convinced of his son's vocation for a military life, sent him to the Engineering Academy in 1832. Todleben was promoted second lieutenant in the Engineers, but soon after was transferred to the Riga command on account of ill-health. Careful nursing under the parental roof and adequate medical treatment soon restored him to health, and enabled him to return to St. Petersburg, and prosecute his scientific studies. Having spent a twelvemonth in the junior class of the Engineering Academy and received the rank of lieutenant on passing into the senior class, he again fell ill, which prevented him completing the entire course. Once more transferred to the Riga command in the following year (1839), we find him a lieutenant in a sapper battalion.

While taking an active part in the practical work of the battalion at Krassnoe Selo, Todleben made acquaintance with General Schilder, who greatly assisted him in his subsequent career. Schilder, perceiving the knowledge and zeal of Lieut. Todleben, commissioned him to investigate the system of countermining by



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means of tubes as a means of restoring an equilibrium between the attack and the defence of fortresses.

At Kieff, in 1844 this system was thoroughly investigated by order of the Russian Government. Thither, to superintend the action of the boring machine, Lieut. Todleben was detached, and he was promoted to the rank of a captain on the staff for his services in this respect. In 1848 he was sent to the Caucasus, where his scientific abilities and courage soon attracted the attention of Government. In 1849, after the decease of the Grand Duke Michael, Inspector General of the Engineer Corps, he was nominated aide-de-camp to General Schilder at Warsaw. From 1852 to 1854 he was at St. Petersburg, or at the camp near Peterhof in its vicinity, on the staff of the engineers attached to the Guard and Grenadier Corps. He fully utilized the opportunity thus afforded of studying his profession, both practically and by reading the best foreign treatises.

On the 28th January 1854, promoted lieutenant-colonel for distinguished services, he was despatched to the Danubian Principalities on the staff of General Schilder, the commanding officer of Engineers. Arriving at Bucharest on the 28th February he reported himself to the Commander-in-Chief, Prince Gortchakoff, who attached him to the staff of General Liprandi, then preparing to operate against Kalafat, in Little Wallachia. But the movement was countermanded. Little Wallachia was evacuated, and the Russian forces withdrawn beyond the Aluta. In consequence General Schilder recalled Todleben, with a view to his taking part in the siege of Silistria, ordering him to Kalarash opposite the besieged fortress. Here he displayed remarkable activity, remaining ceaselessly in the trenches up to the time when the Russian army retired to the left bank of the Danube. For his services before Silistria he was decorated with the ribbon of St. George of the 4th Class.

At the time of the evacuation of the Principalities by the Danubian Army, news arrived of the descent projected by the Allies on the Crimea, and Prince Gortchakoff decided to detach an experienced engineer officer to fortify Sebastopol. His choice fell upon Todleben. "Go to Sebastopol at once," he said, "and examine its condition. Here is a letter for Prince Menshikoff. I have written him that I have sent an engineer, who is the best of Schilder's disciples, and has profoundly studied the engineering art, but excels his master in practice—in short, a man of proved courage, and who thoroughly understands his business." Todleben,

arriving in Sebastopol on the 22nd August, immediately began to fortify the northern side, which, after the battle of the Alma, was most exposed to attack; but the Allies having marched on Balaklava, his attention was naturally turned southwards. In consequence of the enemy's proximity, superior strength, and the possibility of his sudden appearance before Sebastopol, there was no time to construct earthworks either powerful or very regular. Todleben, therefore, resolved to make his defensive line as restricted as possible; *i.e.* at a very short distance from the town. Also, to gain time, he decided to utilize existing defences, erecting heavy batteries on certain points of the permanent line of defence, and joining these by entrenchments for infantry, to be supported in places by batteries with few guns. In selecting spots for the construction of batteries and trenches, he sought to sweep the ground in front with a cross-fire of both arms. "In Sebastopol a wonderful stir was seen. Day and night, cannon and ammunition were landed from the ships; some thousands of men were constantly employed on the earthworks; among them were the troops of the garrison, the prisoners, all the artisans and labourers who could be obtained, the townsfolk, women, and even children. In the morning from 5,000 to 6,000 men set to work, and were relieved towards evening by a less number, who worked till daylight.* The guns were placed in the battery before its completion, or as soon as the earthwork afforded them the slightest degree of cover, the parapets being strengthened subsequently and provided with the necessary obstacles. In this way the number of batteries increased daily, and at last the enemy beheld in his front a continuous line of defence where at first there was nothing visible but a few insignificant fortified posts.

During the night of the 9th October the French threw out parallels about 400 yards in length and double that distance from No. 5 bastion; two nights later the English, following the example, constructed theirs on the Green Hill. This gave evidence that the Allies, renouncing the idea of open assault, had resolved on a formal siege of the improvised fortress. The Emperor of Russia, on receipt of the account of Todleben's operations at once promoted him to the rank of colonel. On the 17th October, at dawn, the Allies opened the first bombardment of Sebastopol, discharging about 9,000 rounds from the batteries on land and 5,000 from the fleets. From the Russian works about 20,000 rounds were ex-

* *Count E. I. Todleben: his Life and Work.* By N. Schilder.

pended with 16,000 more from the shore batteries. The result of the day's work was, that the French batteries, armed with 53 pieces of ordnance, were silenced by the 64 which plied them from the town. In reward for this success, Todleben was appointed aide-de-camp to the Tzar.

In the present brief sketch we shall not enter into all the details of the siege of Sebastopol, but merely dwell on those features of that defence, unexampled historically, which throw the career of the deceased general into strong relief.

During the retreat of the Russians after Inkermann it was the coolness and energy of Todleben which prevented our artillery from falling into the hands of the enemy. When the greater part of our infantry had recrossed the Tchernaya and the mouth of the Careening Ravine, our artillery, exhausted by their prolonged efforts, and enfeebled by its attendant losses, were moving along the military road to Sebastopol. At this juncture the enemy succeeded in over-turning some waggons, which in consequence blocked the way, and while the infantry were making good their way along the shore, the artillery had to halt, extending in a long line from the Careening Ravine to that of Georgievsk. Seeing this, the enemy's skirmishers, taking advantage of thick cover, approached so as to threaten its safety. Todleben, who chanced to be near, perceived the imminent danger of the guns, and brought up a company of the Uglitch Regiment, which was at hand, extending it in skirmishing order. He next stopped the Butyrski Regiment, which was marching in rear of the whole column, formed two battalions into two lines of company columns, placing the remaining two battalions in reserve. Our skirmishers began to exchange a sharp fusillade with the enemy's. Whilst thus encouraging the Russian troops and arresting the progress of the enemy, Todleben brought up four pieces of artillery which were at hand, and these, fortunately joined by others, opened upon the them. Meantime the Sappers, assisted by sailors from Sebastopol, drew off the guns by main force. By 8.30 p.m. all our artillery were within its defences, and in its wake marched the Butyrskis and the company of the Uglitch Regiment.

Since almost all our infantry were armed with smooth-bore muskets, whose range did not exceed 300 paces, while the enemy were possessed of rifles, Todleben recognized, after Inkermann, that it was necessary to throw forward small detachments of infantry along his front. Lodgments were therefore constructed in advance of our lines, which not only permitted the troops to

get within effective range of the enemy, but gave them a better chance of observing his movements and, during the further course of the siege, frequent sallies were made which seriously delayed his operations. When in November it was discovered that the enemy was advancing mines against No. 4 bastion, Todleben found the opportunity of displaying his brilliant genius for subterranean warfare, and the countermines of No. 4 bastion enabled the fortress to hold out at least five months longer than would otherwise have been possible. For these and similar services the distinguished engineer was promoted in April 1855 to the rank of major-general, and after the repulse of the assaults delivered on the 18th June he was promoted to the third class of the St. George, "For exemplary industry in erecting the defences of Sebastopol, which are a model of engineering skill."

On the 20th June, as he was proceeding from the Malakhoff tower to the Gervais battery, Todleben was shot through the right leg just below the knee. He was at once removed in a litter to his quarters in Ekaterinskaia Street, opposite the church of the Archangel Michael.* Since the doctors held out no hope of speedy recovery, Todleben was constrained to relinquish the idea of personally superintending siege operations, but retained their general direction, and was transported to the house of a gentleman residing in the valley of the Belbek, about seven miles from Sebastopol. From this sojourn, in spite of his wound, he continued to issue his orders regarding the defence, though, of course, he was in no state to see after their execution.

On the 9th August, Prince Gortchakoff assembled a council of war, in which it was resolved to attack the Allies from the Tchernaya river. But before carrying this resolve into effect he wished to ascertain the views of Todleben, and paid a visit to his place of residence on the Belbek. General Todleben expressed himself adversely to the plan of an advance from the Tchernaya, pointing out that the topographical conditions were all in favour of the enemy, as well as superiority in numbers. He therefore made the following counter-proposition: to attack the enemy in force from the Karabelnaya suburb, along the space between the Careening and Laboratory Ravines. The execution of this plan, he acknowledged, was accompanied with considerable difficulties, but the results, in the event of success, would be proportionately valuable,

* The ruins of this house were presented to him in 1867 by Alexander II. On this spot the Count built a new one, which greatly embellished the new city; the lower story is devoted to the purposes of a museum to commemorate the siege.

viz., the siege of the Karabelnaya suburb would have to be raised by the Allies ; the French would no longer be able to maintain themselves between the Careening Ravine and the harbour, and the English would be obliged to withdraw their siege batteries from the Green Hill. Prince Gortchakoff, having listened to Todleben's advice, was inclined to abandon the movement, but yielded to the majority of the Council of War, and on the 16th August the unsuccessful battle took place. Next day the Allies opened a terrible bombardment (the fifth), which lasted till the 20th, after which, on the 5th September, they proceeded to the sixth bombardment, the most severe of any, and then rushed to the assault of our half-ruined fortifications. The Malakhoff was taken, and the French tricolour hoisted on its summit. After its capture a further sojourn in Sebastopol was impossible, and on the 9th September our troops, after a heroic defence which had lasted 349 days, retreated over a bridge across the Great Harbour under cover of the powerful batteries of the northern side, having blown up the fortifications and committed the town to the flames.

With reference to Todleben's defence of Sebastopol, General Schilder wrote : " His mind is not cast in a theoretical mould ; it is a practical mind. He never shows any inclination for ideas and theories impossible of realization ; on the contrary, everything which smacks of theory and aimless ratiocination he mercilessly rejects ; if profit could not at once be extracted from such and such a step, he forthwith abandons it, and never departs from the firm ground of reality. With such a cast of mind and such talents, Todleben has made no advances or discoveries in engineering science ; he has done no more than take advantage of circumstances with extraordinary skill, and adapt his means to them. When Todleben proceeded to the realization of his projected scheme of defence, he could not have foreseen that the Allies would give him time to complete his improvised works. Thus it is impossible not to recognize in their originator a remarkable persistence and rare force of will in the conduct of an undertaking, whose feasibility might have appeared dubious to a less resolute man."

On the 14th September 1855, having given orders touching the strengthening of the defences of the Northern side, he went to Simferopol, where he proposed to spend the winter, for the sake of his health, but on the 21st he was invited to proceed to Nikolaieff where he arrived on the 24th of the month. The Emperor received him very graciously, and having thanked him, in the name of the late Tzar and of all Russia, saluted him as aide-de-camp general.

Nikolaieff was, after the fall of Sebastopol, the most important strategic point on the Black Sea shore, wherefore the Emperor entrusted its fortification to Todleben. His projects were approved, but the labours which their execution entailed injured his health and he was obliged to proceed to St. Petersburg. The Emperor, having appointed him Assistant Inspector-General of Engineers, entrusted to his supervision the works which were in progress for strengthening the defences of Cronstadt.

On the 28th November the hero of Sebastopol was accorded an enthusiastic entry into St. Petersburg, the welcome being especially hearty on the part of the officers of the Engineer Corps. After the conclusion of peace, Todleben was commissioned to inspect the maritime fortresses of the Baltic coast: Sweaborg, Revel, and Riga; after this, he went abroad for six months to Germany, Belgium, France, and Italy, for the restoration of his health, and to inspect the fortresses of those countries. In 1858 King Leopold was engaged with a plan for converting Antwerp into a vast intrenched camp, and General Brialmont's scheme had been unanimously rejected. But on its being submitted to Todleben the Russian engineer approved of it, and persuaded the King to accept it. Returning to St. Petersburg he resumed office as Assistant Inspector-General of Engineers. In 1863 the Polish rebellion again exposed the shores of the Baltic and Euxine to the danger of a visit from an Anglo-French fleet, and it fell to the lot of Todleben once more to bring them into a defensible condition. About this time was published the first volume of *The Defence of Sebastopol*, which he had personally edited; and in recognition of his services the Tzar bestowed on him an estate of over 12,000 acres from the Crown lands in the government of Samara. In 1869 Todleben was promoted to the rank of General of Engineers, and in the autumn of 1872 he visited the principal battle-fields of the Franco-German War. On his return to Russia he made a tour of inspection round all the fortresses of the kingdom of Poland, and examined the surveys which were in progress in the neighbourhood of Kovno, Bialystok and Goniendz.

In the autumn of 1876, in view of the approaching rupture with Turkey, the Emperor summoned Todleben to Livadia, and appointed him to the chief command of the Black Sea coast. He set to work with his accustomed zeal; the fortifications of Kertch, Otchakoff, Odessa, and Sebastopol were strengthened with new batteries and by the laying down of torpedoes; in a word, by the 6th November all was in readiness to receive the enemy. On the 24th April war

was declared, and the Russian troops were ordered to cross the Turkish frontier. Todleben received no appointment in the active armies, but was charged with the armament of the forts and fortresses of the Baltic. Not till the 14th September, the day after the failure of the third assault on Plevna, was he summoned from St. Petersburg to be consulted as to the course of future operations. On the 27th he arrived at Gorni Studen, at that time the headquarters of both the Emperor and the Grand-Duke Nicholas.

On the 28th, Alexander II. convoked a council of war, at which Todleben was present. It was resolved to direct the principal masses of the operating armies against Plevna, and to attach Todleben to the Western Army, that he might acquaint himself with the actual state of affairs. Having done so, he declared against any renewal of the assaults, also against regular siege operations, deciding in favour of a blockade and the capture of Osman Pasha's forces. But to this end it was indispensable to reinforce the army of investment with the Corps of Guards which was traversing Bulgaria; in the meantime, to stand on the defensive and strengthen the intrenchments. The Grand-Duke Nicholas having approved of this, on the 4th October Todleben was appointed second in command to Prince Charles of Roumania, chief of the Western Army, with immediate supervision of the Russian troops which were included in it. One of Todleben's first measures was to unite the entire artillery of investment under a single head, and to concentrate its fire on previously indicated sections of the Turkish position. Next he directed his attention to the better supply of the troops, laying down new roads and repairing those already in existence; to the improvement of the telegraphs, the construction of huts for the troops, &c. &c. On the arrival of the Guard Corps, which captured Gorni Dubnak and Telish, the investment of Plevna was complete. By the 2nd December, the works which Todleben had planned around Plevna were finished. The whole line of intrenchments was divided into six sectors, and a sufficient number of troops was assigned to each. On learning Osman's intention to break out of Plevna, Todleben compiled a scheme for the concentration of the Russian troops on the various roads of exit, in order to meet the sortie of the Turks, which happened on the 10th December. The enemy, driven back beyond the Vid, was obliged to capitulate with his entire army. Thus the long-desired result was obtained, thanks to the plan of action adopted by Todleben. The best army possessed by Turkey was in captivity, and the point where the principal roads of Western

Bulgaria formed a junction had fallen into Russian hands. On the 11th November, after divine service, the Emperor, after thanking Todleben and publicly embracing him, decorated him with the order of St. George, 2nd class.

In February 1878, Todleben succeeded to the command of the Western Army, in succession to the Tzarévitch, but, having been summoned to St. Petersburg, resigned it into the hands of Prince Dondukoff-Korsakoff, in accordance with the Emperor's instructions. After the conclusion of the Treaty of San Stefano, Turkey, instigated by England, having evaded the performance of its stipulations, a fresh rupture appeared to be unavoidable. Todleben was therefore directed to proceed to San Stefano, where he reported himself to the Grand Duke commanding, on the 27th April. The next day was received the imperial rescript appointing the Grand-Duke Nicholas a General Field Marshal, and Todleben Commander-in-Chief of the Active Army. Prior to his departure, the Grand-Duke promulgated the following General Order :—

My broken down health alone compels me to return home before the rest of the troops. But in departing I am delighted to leave you in the capable hands of the glorious hero of Sebastopol and Plevna, Aide-de-Camp General Todleben. If so be that you must again be led into action, he will conduct you to victory, and you, for your parts, will follow him with that marvellous resolution and courage which you have already displayed under my command, and which has excited the admiration of Russia and the whole world.

Having mastered the position of affairs around Constantinople, Todleben issued instructions for the troops to occupy camps along the line of demarcation, so as to facilitate a rapid concentration in face of the Turkish army of 80,000, which was assembled for the defence of the capital. He then entered into negotiations with the Porte for the surrender of Shumla, Varna, and Batoum in accordance with the treaty of San Stefano. But the Turks, aware of the advantages which these points would confer in the event of a rupture between England and Russia, replied evasively. Meanwhile, on the 18th July the Treaty of Berlin was signed, when Todleben renewed his application for the surrender of Shumla and Varna; the first of these fortresses was occupied by the Russian troops on the 18th July, the latter on the 8th August.

On the 10th December, 1878, on the first anniversary of the fall of Plevna, Todleben received from the Emperor Alexander II. the following telegram :—

I congratulate thee on the glorious anniversary of Plevna, and still bear in mind that we are indebted to thee for this brilliant final result. In remembrance of this I appoint thee Chief of the Samogitian Grenadier Regiment, and thy aide-de-camp

Melnitzki, my personal aide-de-camp. I repeat my heartfelt thanks to all who took part in the conquest of Plevna. At the proper hour, let us celebrate divine service.

After a visit to St. Petersburg, Todleben for a time occupied the post of Governor-General of Odessa, having vacated the command of the active army in June 1879. On the 17th October, the occasion of his completing twenty-five years service since the first bombardment of Sebastopol, he was created a Count of the Russian Empire, when the Emperor addressed to him the following rescript:—

COUNT EDWARD IVANOVITCH,

To-day is the twenty-fifth anniversary of the first bombardment of Sebastopol by the allied armies and fleets. On this memorable day, recurring in thought to the exploits of our troops, I call to mind with gratitude that your gallant name is inseparably connected with the glorious history of that unsurpassed defence. The system of fortifications thrown up by you in presence of an enemy who was considerably our superior in numbers and armament, and the courageous expedients adopted at your suggestion, enabled the garrison, weak numerically indeed at the commencement of the siege, but powerful through heroic inspiration, to repel all the efforts made by the Allies in the course of eleven months and to inscribe fresh pages of glory in the military annals of Russia. When, at the termination of the war you were recalled to the occupations of peace, in the post of assistant to the Inspector-General of Engineers your martial experience was of undoubted advantage to one of the most important branches of military administration; at the same time you fulfilled, and still continue to fulfil, the arduous duties imposed on you by my confidence with conspicuous zeal. The brilliant part you played in the recent war, which was crowned by the fall of Plevna, and the capture of Osman Pasha's army; your indefatigable activity while for eighteen months you were in command of the active army; the measures, at the same time energetic and prudent, which enabled you to execute in a worthy manner your allotted tasks while in occupation of the enemy's territory and the provinces liberated by the might of our arms, all entitle you to claim my gratitude. In recognition, therefore, of your admirable services to the throne and the Fatherland, and desirous of expressing my heartfelt gratitude on this memorable day, I, by a decree issued to the Senate, have elevated you and your heirs male to the dignity of Count of the Russian Empire.

I remain, ever yours affectionately,

ALEXANDER.

Todleben did not long remain at Odessa, but on the 30th May 1880, proceeded as Governor-General to Wilna, as commander of the troops in that military district. The assassination of the Emperor on the 12th March 1881 was a severe shock to the Count. During a visit to St. Petersburg in the spring of 1882 he caught cold, and was attacked by inflammation of the lungs; but on convalescence, he returned to Wilna and his ordinary duties. In the autumn, however, his health became worse, and he obtained permission to go abroad for its restoration. In spite of the most exact observance of the instructions given by foreign physicians, his malady, asthma, constantly assumed a graver type, occasioning

him much suffering. To all this was superadded an affection of the eyes, and to save his eyesight he was obliged to go to Würzburg and there undergo a painful operation. His vision was restored, but his general health continued to grow worse, obliging him to apply for an extension of leave.

Todleben spent the winter of 1883 with his family at Wiesbaden, but in spite of the geniality of the climate his state of health went from bad to worse; a dreadful cough harassed the invalid, especially at night. In the spring of 1884 he was attacked by dropsy in the legs, and was compelled to remove to Soden, but still his health did not improve. On the 18th June, he lost their use through a stroke of paralysis; and next day his tongue and left side became similarly affected. On the 30th he became unconscious and blind, and on the 1st July he expired at half-past five in the afternoon.

From Soden the mortal remains of Todleben were transferred to Russia. The coffin of the hero of Sebastopol was received on the frontier by a military and civil deputation, and transferred to a mourning coach which was in readiness to conduct it to Wilna. Thence the body of the deceased was transported to Keidany, thence to Riga and finally to Sebastopol, where, on the 17th November 1884, it was interred in the "Fraternal Cemetery," which is situated at the northern side of the city.



Some Notes on Military Topography.

By CAPTAIN WILLOUGHBY VERNER.

PART IX.

Some Useful Memoranda.



IT is very commonly said of examiners, especially by those who have suffered at their hands, that they appear, as a race, to take a delight in finding out things that men do not know instead of attempting to elicit whether their victims possess a good useful knowledge of the subject of examination. The repartee to this is, often enough, that if men under examination confined their energies to replying to the questions put, instead of inflicting upon the examiner their opinions on various other topics, often interesting enough but wide of the point at issue, they would probably come out of the ordeal much better than they do at present.

But amongst the mass of questions which men under examination have to tackle, there will ever be some involving points of the utmost practical importance to an officer who has to deal with maps and mapping. These, at first glance, often appear to be pure theoretical tests, involving a knowledge of simple mathematics which is only too often not available at the critical moment. Experience alone will show that it is impossible for men to make topographical matters a study without constantly finding it necessary to solve some problem, in itself simple enough but at the same time requiring careful handling, so as to save time if not to avoid error.

In thus referring to examination questions, I do not wish or intend anybody to take the contents of this chapter as a guide as to how best to "floor" a paper (as it is sometimes styled), so much as to endeavour to prevent men engaged in actual topographical work being "floored" by some new and unexpected problem arising fairly in the course of practical work in the field.

Common Scales and Representative Fractions.

One of the first difficulties is in connection with the various scales employed. This frequently arises from the variety of ways in which we express, in our language, the relation between the ground as depicted on a map and the actual ground itself. Thus we commonly talk of "6 inches to a mile," or "2 miles to an inch," or "400 yards to an inch," or, more confusing than any to the untrained mind, "a scale of $\frac{1}{7920}$."

These various expressions explain themselves individually, but when two or more are considered together, some confusion is apt to occur. Say, for example, the choice lies between two maps, one at .75 inches to a mile and another at $1\frac{1}{2}$ miles to an inch, and it is decided to take the one on the larger scale. Of course, such a question can be answered offhand by anybody accustomed to maps, but, all the same, will often perplex the unwary. Again, if the two maps were on scales of "6 inches to a mile" and "400 yards to an inch," which is the larger scale? Or, again, would one with a Representative Fraction of $\frac{1}{7920}$ be larger or smaller than the rest?

It would be easy to ring the changes on all the foregoing, and it would require very little ingenuity to make some fairly awkward conundrums out of such materials. Such questions will and do constantly arise in practice, and so it is as well to have some good rough and generally applicable rule for dealing with them.

A good plan is to start from the point that since any map is a horizontal projection in miniature of the portion of ground it represents, the true way to concisely express the "scale" upon which it is drawn is to do so by a fraction commonly styled the "Representative Fraction," in which the numerator represents a portion of the map, and the denominator the same portion of the ground. Hence we have—

$$\text{Representative Fraction} = \frac{\text{Map}}{\text{Ground}} \quad \text{or} \quad \frac{M}{G}.$$

This expression $\frac{M}{G}$ will be found a very handy *aide mémoire* in solving divers problems. Take, for example, the scales already cited. The first one, "6 inches to a mile," gives us $\frac{6 \text{ inches}}{1 \text{ mile}}$, whilst the second, "2 miles to an inch," gives us $\frac{1 \text{ inch}}{2 \text{ miles}}$ or $\frac{\frac{1}{2} \text{ inch}}{1 \text{ mile}}$, and it is clear enough that the first scale is twelve times as large as the second. Such an example is self-evident, and can be

answered at sight. But take another case: two maps, the one .75 inch to a mile, the other $1\frac{1}{2}$ miles to an inch.

$$\text{Here, R. F.} = \frac{M}{G} = \frac{.75 \text{ inch}}{1 \text{ mile}} \dots (1).$$

$$\text{and R. F.} = \frac{M}{G} = \frac{1 \text{ inch}}{1\frac{1}{2} \text{ miles}} \dots (2).$$

For simplicity of comparison they can be reduced to the same common denominator, which gives

$$(1) \quad \frac{.75 \text{ inch}}{1 \text{ mile}} \times 3 = \frac{2.25 \text{ inch}}{3 \text{ miles}}$$

$$(2) \quad \frac{1 \text{ inch}}{1\frac{1}{2} \text{ miles}} \times 2 = \frac{2 \text{ inches}}{3 \text{ miles}}$$

Thus it is clear that the first map is on the larger scale, since 3 miles are represented by 2.25 inches on it, whereas on the second map 3 miles are represented by 2 inches.

When a map described as being on a scale of so many hundred yards to an inch has to be compared with another, it is best at once to work out its representative fraction. Such scales are more generally useful than any others, for they can be accurately constructed with the aid of any foot-rule or measure shewing inches and half or quarter inches. They are especially suitable for use on paper showing half or quarter inch squares.

Thus, for 400 yards to an inch,

$$\text{R. F.} = \frac{M}{G} = \frac{1 \text{ inch}}{400 \text{ yards}} = \frac{1}{400 \times 36} = \frac{1}{14400}$$

and 6 inches to a mile,

$$\text{R. F.} = \frac{M}{G} = \frac{6 \text{ inches}}{1 \text{ mile}} = \frac{6}{1760 \times 36} = \frac{1}{10560}$$

These could also be compared by saying that since the first is

$$\frac{1 \text{ inch}}{400 \text{ yards}} \text{ it is } \frac{6 \text{ inches}}{2400 \text{ yards}}$$

and is, therefore, clearly smaller than the second, where 6 inches represent 1,760 yards.

It need hardly be mentioned that a R. F. properly worked out must express the same units of measurement in its numerator and denominator, and that the former must always be unity.

If a scale of yards only be given, and the representative fraction be required, the most rapid way is to take any convenient number of yards off the scale on the map and measure how many inches and decimals of an inch they are represented by on the map.

$$\text{Then R. F.} = \frac{M}{G} = \frac{(\text{inches on}) \text{ map}}{(\text{inches on}) \text{ ground}}.$$

For example, say 600 yards on the map scale was found to measure 2·05 inches.

$$\text{R. F.} = \frac{2\cdot05 \text{ inches}}{600 \times 36 \text{ inches}} = \frac{2\cdot05}{21600} = \frac{1}{10536\cdot6},$$

or very nearly 6 inches to a mile.

To find out how many "inches to a mile" any map represents, given the R. F.

This problem is readily solved by remembering how many inches go to a mile, namely, 63,360.

The answer then is $\frac{63360}{\text{Denominator of R. F.}}$.

Example.—A map is marked $\frac{1}{7920}$, what number of inches to a mile does it represent?

Here $\frac{63360}{7920} = 8$; i.e. 8 inches to a mile.

Again, $\frac{1}{63360} = \frac{63360}{63360} = 1$ inch to a mile.

Very similar is the rapid way of ascertaining how many "miles to an inch" a small scale map represents.

In this case the answer is $\frac{\text{Denominator of R. F.}}{63360}$.

Example.—A map marked $\frac{1}{126720}$. How many miles to an inch?

Here $\frac{126720}{63360} = 2$, i.e. 2 miles to an inch.

Again, 1 : 100,000

$$\frac{100000}{63360} = 1\cdot57, \text{ or over } 1\frac{1}{2} \text{ inches to a mile.}$$

Decimal Scales and Representative Fractions.

Some maps, especially Continental and American ones, are executed on a decimal scale, which, instead of being expressed fractionally, is commonly shown thus :

1 : 10,000; or, 1 : 25,000, &c.

Maps of this description will frequently fall into the hands of officers, both for strategical and tactical purposes, and it is a great convenience if the scale in inches to a mile or miles to an inch can be readily and easily ascertained. Only too commonly, to arrive at this, a scale is constructed after a lengthy calculation conducted on strictly orthodox principles, and it is the exception to meet a man who can take up one of these maps and almost at sight

ascertain the scale and proceed to measure off any required distance with a foot-rule or a makeshift for the same. Such, however, is a very easy matter.

Say the map is marked scale 1 : 100,000. Here, of course

$$\text{R. F.} = \frac{M}{G} = \frac{1 \text{ inch}}{100,000 \text{ inches}}$$

and 1 mile represents 100,000 inches.

Then, since a mile = 63,360 inches,

63,360 inches represents 100,000 miles,

6.33 „ „ 10 miles,

or, roughly, $6\frac{1}{2}$ inches represent 10 miles, and a mile is about $\frac{2}{5}$ of an inch.

Again, given a map of 1 : 25,000.

$$\text{R. F.} = \frac{M}{G} = \frac{1 \text{ inch}}{25,000 \text{ inch}}, \text{ or}$$

1 mile represents 25,000 miles,

63360 inches „ 25,000 „

6.336 „ „ 2.5 „

12.67 „ „ 5 „

25.34 „ „ 10 „

2.53 „ „ 1 mile,

or about $2\frac{1}{2}$ inches to a mile.

Or, if yards be required,

1 inch represents 25,000 inches.

36 inches „ 25,000 yards.

7.2 „ „ 5,000 „

1.44 „ „ 1,000 „

or about $1\frac{1}{2}$ inches to a thousand yards.

The latter scale would be handy in any “position” work, when it was required to roughly measure any artillery ranges, &c.

These decimal scales, worked in the foregoing simple fashion, can be easily constructed when required with the aid of any protractor with a diagonal scale of inches.

The same principle also applies to other scales, when it is required to reduce the representative fraction to “inches to a mile.”

Thus $\frac{1}{15840}$ gives the following:—

1 inch represents 15,840 inches.

1 yard „ 15,840 yards.

36 inches „ 15,840 yards.

12 inches „ 5,280 yards.

4 inches „ 1,760 yards.

i.e., the scale is 4 inches to a mile.

Horizontal Equivalents.

After common scales, the next difficulty generally is the "scale of horizontal equivalents." This can be constructed to represent any desired vertical interval at the particular scale on which the map is drawn. But it is the "normal" scale that seems to confuse some people so much. This is the standard laid down "by authority," and which states that at a scale of 6 inches to a mile, normal contours are drawn with a vertical interval of 20 feet.

Now comes the question, Given the scale of a map, what should be the vertical interval between the contours? This is a simple rule-of-three sum; but there is a handier and more easily used "rule of thumb," derived from the rule of three, which, although well known to many, is worth reproducing here, viz.:

Divide the number 120 by the scale of the map expressed in inches to a mile.

For example: What is the normal vertical interval for a map drawn on a scale of 12 inches to a mile?

$$\text{Answer } \frac{120}{12} = 10 \text{ feet vertical interval.}$$

Similarly, 3 inches to a mile gives $\frac{120}{3} = 40$ feet vertical interval.

From the foregoing it will be seen that with normal contours, although the distances between them on paper never vary, both the horizontal distances and vertical intervals they represent vary according to the scale of the map employed. This is a very old truism, but one often overlooked.

Uses of a Foot Rule.

To construct a Scale of Horizontal Equivalents when no protractor is available.

Supposing a map was found to have a R. F. of 1 : 25,000, and the contours marked at 60 feet vertical intervals, and it was required to study the slopes of the ground with a view to the construction of field works, or for some other military purpose. It is clear that a scale of yards might be worked out, and a scale of horizontal equivalents calculated and constructed, by referring to the scale of yards.

A foot-rule, however, affords a far more expeditious way of constructing a scale of H. E. sufficiently accurate for all practical purposes.

Commencing at the groundwork of all scales of H. E., we have—

1° slope gives a rise of 1 ft. in a distance of 19·1 yds.

Then—

1° „ „ 60 „ „ 19 × 60 = 1,146 yds.

And since 1 inch represents 25,000 inches

1 yard „ 25,000 yards

36 inches „ 25,000 yards.

Therefore for 1° slope the H. E. is, as

25,000 yards : 1146 yards :: 36 inches : Answer,

which will be found to be 1·65 inches.

This, then, is the Horizontal Equivalent for 1 degree of slope, representing 1,146 yards at a scale of $\frac{1}{25000}$.

The H. E. for 2 degrees or 3 degrees are then found by taking $\frac{1}{2}$, $\frac{1}{3}$, &c. of 1·65 inches.

Another somewhat similar problem is, Given the scale of a map, and the vertical interval between contours, to find the gradient or slope of any particular portion of the ground represented.

Suppose the same R. F. and V. I. as in the preceding example be taken, to find out the gradient or slope of any part of the map measure with the foot-rule the interval between two contours, and suppose this be found to be a little over $\frac{1}{8}$ inch or about ·9 inch,

Then say, since 1 inch represents 10,000 inches,

12 inches „ 10,000 feet,

12 inches : ·9 inch :: 10,000 feet : Answer,

or 750 feet.

Hence the gradient is $\frac{9}{7500}$ or about $\frac{1}{12}$, or a slope of 5 degrees.

Reducing or Enlarging Maps.

This process is often most useful to a man who wants to utilize existing maps for military purposes, and who is wise enough to profit by the work already done by others, thus giving himself more time to work out the special object he has in view. Nine times out of ten, a map will be required to be enlarged. Take the case of a map 4 inches square, which is to be enlarged to four times its size. It is required to find out the length of the new map's sides and the new R. F.

Here the original map 4 in. × 4 in. = 16 square inches; and four times 16 square inches is 64 square inches. This, then, is the size of the new map, and each side is of course 8 in. or twice that of the old map. If the R. F. of the original map was $\frac{1}{25000}$ that of the new map, four times its size will be $\frac{1}{25000} \times 2 = \frac{1}{5000}$.

Such matters are absurdly simple to anybody who is "good at figures," as it is commonly styled, but it is undeniable that many a good man has, when told to make a copy of an existing map, double the size; gone off straightway and provided one four times the size and *vice versâ*. A moment's reflection will show that a map twice the size of another has a R. F. not twice the size of the other map's, whereas a map drawn on *twice the scale* of another has a R. F. twice as large as it.

Mounting Maps.

For use in the field a map is best cut into squares, or any other convenient shape, and mounted on calico. Everybody has, of course, used such maps, but it is useful to be able to make them.

The following is a simple way of doing this, and one that is generally adopted by men skilled at the job. The calico, which should be of the sort known as "fine holland," is stretched on a table or board by tacks at a few inches interval round its edges. It is then damped with a little paste and water; the effect of this is to shrink it considerably. The map is then damped with paste at the back (which causes the paper to expand) and laid on the calico, and rubbed over so as to work out the paste and air from under it. It should then be left to dry. If a map is on very stiff paper, it should be damped before pasting it over on the back.

To make a folding map, the sheet must be cut into convenient squares or other rectangular shapes, and each portion mounted so as to leave a small space between the edges. This enables the map to be folded the easier, and also serves to protect the edges of each square from getting damaged in folding and unfolding.

It will commonly happen that maps thus mounted will be found to have either stretched or contracted considerably during the process. To neutralize this defect it is always best, when possible, to mount a portion of the original scale belonging to the map along with it, which may generally be taken as representing the true scale of the map. When this is not done, distances measured with a protractor will often be found to be incorrect. Few topographical problems present greater difficulties to the unwary than this question of the effect produced on a map by being mounted.

Supposing it were required to measure precisely a series of ranges from some point on a 25-inch map, and that it was ascertained that the said map had shrunk in mounting about 18 yards in a mile. For example, a range of 2,425 yards has been taken on the ground; what should this be on the map? Here it is evident that

since the map has shrunk 18 yards in 1,800 yards, it shows about 1 per cent. less than what it should. Hence 2,425 yards would be shown as 2,425—24 or 2,400 about, and that if a true scale be employed that distance should be measured on the map if a range of 2,425 on the ground be required.

Thus we get the rough rule that when using a map that has shrunk in mounting, the percentage of error must be *deducted* from any distance measured with a true scale; and, conversely, that when using a map that has stretched in mounting the percentage of error must be *added* to the distance measured with the true scale.

Some years since I was verifying a series of ranges taken and was surprised to find them uniformly too long, although there was no apparent reason for this being the case. It subsequently transpired that the map I was using had shrunk considerably, and that in consequence all the ranges measured with a true scale were erroneously recorded as being "short."

The Variation of the Compass.

To find the variation of the compass from a map, when the ground represented by the latter is accessible.

This is a very easy matter; all that is required is to place oneself at any point, A, which can be readily identified on the map, and to observe the magnetic bearing of another point, B, which must be as equally recognizable.

Now draw a line on the map joining A and B, and placing the centre of the protractor on A pivot it until the line A B cuts the graduated edge at the same number of degrees as the observed bearing. A line ruled down the edge of the protractor will mark the *magnetic* N.S. line on the map. But since the right or left edge of the map always shows the *true* north, the magnetic variation is the angle contained between the magnetic N.S. line and the edge of the map. This can be readily ascertained by the aid of the protractor.

A capital rough rule for deducing the variation of the compass from an observation of the true north (such as the Pole Star) is as follows:—

If the compass reads East, the variation is West; if the compass reads West, the variation is East.

Example.—True North bears 17° (or N. 17° E.); hence the variation is 17° West. Again: true North bears 348° (or N. 17° W.); hence the variation is 17° East.

If the bearing of the true South, *i.e.* of the sun at apparent noon, be observed, a different rule must be used, and we get the following:—

If the compass reads East; the variation is East; if the compass reads West, the variation is West.

Example.—At noon the sun bears 163° (or S. 17° E.); hence the variation is 17° East. Again: at noon the sun bears 197° (or S. 17° W.). Here the variation is 17° West.

These problems, although almost self-evident, have often caused much confusion to those unprovided with this rough-and-ready rule. Of course a diagram renders such a rule unnecessary.

Pacing.

Some confusion often arises as to the effect of pacing “short” or “long”; hence it may be as well here to give rules as to how the result of such inaccuracies may be recorded, and allowed for.

If a man paces long, each of his reputed yards is over a yard; hence his distances will be all short, and the scale upon which his map is executed will be less than the true scale. The obvious corollary to this is that whatever may be the *true* R.F. of the scale he imagines he is using for his sketch, the *actual* scale will be one whose R.F. is smaller, or has a denominator greater than it should be; or, briefly—

Long paces: Map, smaller scale; denominator of R.F. larger.

Now, as to the converse: If a man paces short, each of his reputed yards is less than a yard; hence his distances will be all too long, and the scale upon which his map is executed will be greater than the true scale, and in consequence, the denominator of the R.F. will be *smaller* than it should be; or, briefly—

Short paces: Map, larger scale; denominator of R.F. smaller.

Reconnaissance Memoranda.

The numbers of these given in various books is almost legion. There are, however, two which often cause trouble, and which are in consequence here given.

(1) To calculate the water-supply of a stream.

Area of cross-section multiplied by the velocity in feet per minute, multiplied by 9,000.

The result will give the number of gallons obtainable in twenty-four hours.

Example.—A stream with an average breadth of 5 feet and an

average depth of 6 inches, which is reckoned to run with a velocity of 20 feet a minute.

Here, $5 \times .5 \times 20 \times 9,000 = 450,000$ gallons=amount available in 24 hours.

N.B.—The number 9,000 is obtained by multiplying $6\frac{1}{2}$ (the approximate number of gallons in a cubic foot of water) by the number of minutes in 24 hours, viz. 1,440.

(2) To calculate the amount of forage rations in a rick of hay or oats, measure the rick in *yards*, and ascertain the cubic capacity by any of the usual formulæ.

Then, since a cubic yard of hay weighs on an average about 100 lbs., and a ration of hay is 12 lbs., it is evident that every cubic yard will supply 8 rations.

Similarly, since a cubic yard of straw weighs on an average about 140 lbs., and a ration of straw is 8 lbs., every cubic yard will supply 18 rations.

Thus, a hayrick with a capacity of 100 cubic yards would contain 800 rations, and a straw stack of a similar size, 1,800 rations. In other words, there would be 8 days' rations of hay and 18 days' rations of straw for 100 horses.

With this last conundrum I shall leave the subject. There are, of course, many other useful rules and memoranda which it would be impossible to recapitulate here, but which are well known to those who have studied the subject. It should be clearly understood by all who read this that there is little or nothing that is original in this chapter, and that it consists simply of a collection of some of the rough rules for the rapid solution of the more important problems that most commonly present difficulties to those engaged in the study of military topography or reconnaissance work.



Coast-Defence and Naval Responsibility.

By CAPTAIN S. EARDLEY-WILMOT, R.N.



WE are so accustomed to be told this country possesses no organization for war, and that the administration of the services is in a state of chaos, that one assertion more or less of this nature is not likely to lead to any material alteration in our institutions. As, however, we are apt to pay greater attention to what is said abroad, and to the utterances of foreign critics even on subjects with which they can but be imperfectly informed, than to those at home who point out our defects, it is surprising how little notice has been taken of a strong opinion expressed, and extensively quoted, on the organization in England for what is usually called coast-defence. In a report which has been printed and published with all the authority attached to the compilations of the United States Naval Intelligence Department, and, in common with other volumes proceeding from that source, justly extolled for containing a mass of most valuable information, it is stated, in a chapter devoted to methods pursued in various countries for protecting the coast—"The coast-defence of Great Britain is notably the most inefficient of any of the Great Powers." The reason for this sweeping condemnation is that, unlike France and Germany, Great Britain has placed and retained in the hands of her army this portion of the national defences.

No doubt our system in this respect differs from that now adopted by several important maritime States, but that need not necessarily prove it is defective or unsuited to the requirements of an Empire whose existence depends upon conditions shared by no other nationality. There is no more reason for adopting a particular

system of coast-defence because France has seen fit to do so, than for accepting military conscription because geographical conditions on the Continent demand it. The fact of Germany, with a limited coast line and few interests abroad, placing its protection under the navy does not prove its value for an Empire whose water frontier is of enormous length and ocean commerce of vast dimensions, any more than the difference in the military organizations of the two countries can be considered a proof that nothing worse than ours could be devised. As, however, the opinion expressed abroad has been endorsed by some in this country, we may profitably investigate the subject. I propose to do so on the present occasion, and shall rather challenge the general principles upon which we have constructed our system of coast-defence than enter at length into the objections which, according to the same critic, are attached to "divided control, lack of co-operation, and absence of digested schemes for mutual support."

It is desirable, in the first instance, to clearly understand what we mean by coast-defence, because the tendency of late years has been to look upon it as something separate and apart from the general sea-defence of the country. To many the term is limited to the protection afforded by forts and submarine mines, and it is only under close examination the fact reveals itself that in hardly a single instance can we rely on such means entirely for complete protection. This erroneous view has been, if not encouraged by the navy, at least acquiesced in by that service, under the impression that it would enable the comparatively small sums voted in recent years for the navy to be mainly devoted to the increase of our sea-going fleet, and prevent men being retained at home when they would be more useful abroad. The Admiralty has always had a strong objection to the localization of any portion of its force. During the Crimean War some uneasiness was felt on the coast of the United Kingdom and India at the absence of British ships. It was then pointed out by the naval authorities that more efficient protection was afforded to this country by confining Russian ships to their own ports than by distributing the British fleet along the east coast of England and Scotland. In the same way, India was more efficiently protected by our force acting in the Chinese seas than by stationing British ships in the Bay of Bengal.

Whether Nelson fought Villeneuve in the West Indies or off the coast of Spain, the safety of the English coast was as effectually secured. It will be observed there was no question then of fortifying the various ports, but simply a desire to see in the neigh-

bourhood some portion of the fleet. At the present time, failing to get some such assurance as the above, we find the mercantile ports clamouring again for this outward and visible sign, and as the same objection exists now to the localization of naval force, the demand comes for forts and submarine mines.

Recently there has been some discussion as to the value of fixed defences, and in their support it is urged that, so far from being a modern device fortifications are of ancient origin, and have always been considered a necessary portion of the sea-defence of this country. A proof of this is given in the existence of the Elizabethan fort at Upnor. But the advocates of fixed defences have omitted to point out the specific cause which led to the construction of the ancient fortifications. They mainly arose from the custom for centuries of dismantling the fleet during the winter season, laying up the ships and dispersing the crews until the following summer. It was, therefore, in the power of a neighbouring country bent on hostilities at the earliest opportunity to equip a squadron with haste and secrecy, and despatch it in the early spring on a raid to the enemy's coast. If no warning of this intent had been received—and communication across the sea at that time was dilatory and uncertain—the enemy might be taken unawares, and his ships destroyed in the ports as they lay dismantled. This appears to have led principally to the erection of forts as a protection against such acts, and it was for the greater security of her fleet, which usually lay in the Medway, that Elizabeth built Upnor Castle.

This sagacious sovereign, however, placed her principal reliance on a powerful naval force, for as an old author says, "The Queen at that time had one hundred and twenty large ships ready for sea, the greater part of which were lying in Gillingham Road, besides a great number which were then building. Her Majesty had also three 'notable gallies,' the *Speedwell*, the *Tryeright*, and the *Black Galley*, with which, together with the rest of her navy, she appeared to be almost incredibly delighted; reflecting that by means of these her coasts were kept in peace, and her inveterate enemies, who would otherwise have taken every opportunity of invading her dominions, were by them kept at a distance, none daring to approach."

Elizabeth was equally impressed with the importance of being first at sea; for we are told that in 1599 a squadron was assembled in the Downs in the course of twelve days, to the great surprise of all the powers of Europe.

Not without cause was Elizabeth called by Camden "The Restorer of the naval power of England, and Sovereign of the Northern Seas."

All the dark days in our naval history may be traced to an imperfect appreciation of our maritime supremacy, or wilful neglect of the navy for motives of economy. Thus, the ascent of the Thames by the Dutch in June 1667 was feasible, because the British fleet had not been equipped, as usual, in the spring, but lay dismantled at Chatham. To show how slight was the importance attached to any other form of defence, it may be remarked that at that time only fifteen guns were mounted at Sheerness. This policy of main reliance on the fleet had come down in unbroken tradition from the earliest days of this country's history. Alfred the Great was the first to perceive that the remedy for the raids and invasions of the Danes was to meet them at sea, and not after they had landed. With this view he encouraged ship-building, and organized three squadrons, which were stationed on the east, west, and north coasts of the Kingdom. It is stated he was the first who asserted an absolute dominion in the neighbouring seas, in which during his time not a pirate was to be found.

The policy thus inaugurated by Alfred appears to have been followed, though with occasional lapses, after the Norman conquest, and the introduction of cannon and gunpowder did not affect the main principle upon which the safety of the country was based.

In 1785, after a war in which this country had been hard pressed to retain its maritime supremacy, a Royal Commission sat to consider the advisability of further protecting the dockyards by fortifications. It was assumed the home squadron might be absent three months, during which time the enemy could attack Portsmouth or Plymouth and land 30,000 men. The majority of the Commission proposed a large expenditure on fixed defences to meet such an eventuality; but it was opposed by the minority, including Sir John Jervis, afterwards Lord St. Vincent, on the ground that it would be most unlikely the fleet could be sent away on any service for such a long period at a time when the enemy were preparing a descent upon our coast. The correctness of these views appears to have prevailed, and prevented any further steps being taken at that time. It was reserved for later years to lay down the doctrine that if there is any doubt of the fleet being capable of giving complete protection, the remedy is to be found by adding to and extending the fortifications. So little attention was given after Waterloo to the lessons of naval history, that when the Duke

of Wellington pointed out the liability of the coast to be assailed by an enemy there was none to point out the proper remedy; but it was not until the Royal Commission of 1859 advocated an increase to the fortification of the naval ports as a substitute for an adequate navy, that any such idea had permanent foundation in this country. Compare the fixed defences now with those that existed at the beginning of the century, and also the relative strength of the fleet at the two periods, and it will be at once seen how greatly we have tended towards content with a weaker navy as we have added to the forts. It is curious to think that any Commission appointed to consider national defence should not see that if the fleet was unequal to cope with that which might be brought against it "by any probable combination of maritime powers," no amount spent on fortifications would be of any assistance in retaining command of the sea, which in the past had given us security when, without allies, we opposed such a combination. But the expenditure was approved, and the work is going on to this day. In the early part of 1888 a Committee of nine, under the presidency of the Secretary of State for War, and which included one general and one admiral, considered the plans proposed for the fortification and armament of certain military and mercantile ports on which an estimate of about five millions had been framed by the War Department. Included under the term military ports are the naval arsenals, and such localities as Portland, Harwich, and Dover. The whole is based on the supposition that we have temporarily lost command of the Channel by the fact that the Channel Squadron is absent or disabled, and that these ports and dockyards might have suddenly to rely exclusively on their own resources for defence against attack by a powerful squadron of ironclads.

It does not seem to have struck the Committee that if the naval force in home waters was too weak, the best investment for available money would be in making it stronger. What the Committee meant by the Channel fleet being absent is not explained. The bulk of it may have been despatched on some mission, but, as explained before, security to the British coast could be as effectually attained by an operation 2,000 miles distant as by its presence in the Channel. But the Committee state that "It is not too much to say that the destruction of our great dockyard at Portsmouth, and in a less degree of that of Plymouth, might be decisive of the issue of a great war; while the defence of the Thames and Medway is likewise of paramount importance, not

only because in those rivers are situated the yards of Chatham, Sheerness, and Woolwich, but also because it is universally believed that an enemy descending in force upon England would immediately endeavour to strike a blow at London." All this sounds very plausible, but it will not bear examination. The destruction of Portsmouth Dockyard, as an isolated act, would certainly not cause us to sue for peace, and it is difficult to see how an establishment extending over so many acres is to be demolished except by a force landed for the purpose. What is meant by an enemy descending in force upon England, and striking a blow at London, cannot be gathered unless an invasion is alluded to. But all such reasoning points to a collapse of our naval power; and the pernicious influence of modern ideas is again observable, which sees the remedy in additional forts instead of an increase to the fleet.

The Committee are troubled because they observe some place where, at a range of 7,000 yards, ironclads with modern guns could shell Portsmouth Dockyard; and it becomes the text on which to recommend an addition to the fixed defences in the neighbourhood. It is a fatal blot on all such means of denying approach to localities of extended area, and more than one channel, that there is no power of concentrating the defences at the point of attack, and hence the enormous mass of material required to cover all gaps. Next in importance to the ports already mentioned, the Committee place Malta and Gibraltar. They state, "Upon the maintenance of these two fortresses depends our position in the Mediterranean, and here, too, we must be prepared to face a possible attack of heavy ironclads combined, in the case of Malta, with the attempt to land a large force." I am astonished to find any officer subscribing to such a doctrine as that our position in the Mediterranean *depends* upon our holding Malta and Gibraltar. That they will at all times prove of assistance to our squadron in those waters must be admitted, but they are no more essential to our position now than during the time we held the Mediterranean before Malta came into our possession. Its value in future wars remains to be proved; but, in the past, Nelson in several of his despatches points out the disadvantages of Malta for his operations. Napoleon, whose remarks on the maritime position of England were at all times extremely apt, in one of his conversations with O'Meara, and speaking of the mistakes made by England in not retaining possession of Alexandria, said, "In my opinion it (Alexandria) would be to you an acquisition far preferable to Malta or Gibraltar.

Egypt once in possession of the French, farewell India to the English."

The introduction of steam has modified, not altered, the principles of naval warfare. There seems to be a prevalent idea that whereas ships formerly could remain at sea an indefinite time, now they must return to port at short intervals to coal. The facts are quite different. Before copper sheathing was introduced for the bottoms of wooden ships, they were coated with a mixture of tallow, sulphur, and resin, as a protection against weeds, barnacles, &c. This was what was then called giving a ship a pease-porridge bottom, and it frequently had to be renewed. Independent of this, the stay of ships at sea was limited according to their supply of water. The amount carried was usually sufficient to last about eighty days. Nelson, as is well known, used the Maddalena Islands to refit and fill up with water; while, just before Trafalgar, he had to send away a portion of his squadron for the same purpose. At the present time coal is the governing factor, and though it is impossible to predict with any certainty the consumption of coal on blockade service, we may, I think, assume the staying power of a modern battle-ship at about two months. Independent of coaling at sea, this shows, therefore, a difference of one month only to have been made by the substitution of steam for sail. Harbours are required now for coaling and receiving stores, and having them of our own is more convenient than utilizing the anchorages of a neutral, or even of the enemy itself, as might be necessary in some cases.

But the Committee contemplate a heavy attack of ironclads on Malta, combined with an attempt to land a large force. If, however, local defence is to be based on such assumptions, one feels tempted to ask, Why rely on the fleet at all? Why not trust solely in what we are sure will not be absent, and believe will not be disabled?

The Committee next consider the mercantile ports, and come to the conclusion the attack of armoured cruisers is most to be feared in these localities, and that their procedure will be, if the ports are reasonably defended, the destruction of merchant vessels approaching the harbours. In this case the attack must be met on the sea, but it is not pointed out that if the approaching commerce is thus defended, the armoured cruiser cannot attack the ports, though later on it is conceded that an active naval defence is the only one which can adequately protect certain ports and towns lying upon the sea-board. In these localities it is considered

impossible to give absolute protection from bombardment at a distance of four or five miles. "But," it is stated, "on the other hand it appears certain that the probable effect of a bombardment at any such range has generally been much exaggerated." This seems a strange admission, after advocating strengthening the Spithead defences on the plea that the dockyard could be effectively shelled at a range of three and a half miles.

After all, an inconsistency of that nature is unimportant compared with the entire absence of agreement between those responsible for the complete defence of the kingdom. Clearly, the country looks to the navy to prevent all attacks in force on any part of the coast, and the Admiralty have accepted that view.

On October 10th, 1888, at Glasgow, the First Lord of the Admiralty defined with precision the duty of the naval force. He said: "Roughly dividing the work to be done, it will be found to come under three heads. First, the disposition of our fleet so that it may, in the assertion of its superiority, protect our coasts from invasion, our fortresses and coaling stations from bombardment, and at the same time afford protection to our trade. This duty must be exclusively performed by the navy." Again, in the House of Commons on March 7th, 1889, in moving the vote for increasing the navy, and speaking of local defence at the commercial ports, he said: "If our naval supremacy were seriously impaired, no system of local defence, however efficient, would give protection to the country. On the other hand, if our supremacy is maintained, no serious attacks will be made upon these ports." How can such statements be reconciled with the labours of a Committee, working on the lines that the navy is absent or disabled and preparing to meet in another way the attack of an iron-clad squadron? Nor do we find the Secretary of State for War disagreeing with the doctrine, though his reasoning in favour of an expenditure of three millions on local defence is somewhat different. He says, in his memorandum to the Army Estimates, 1888-89: "The navy, however strong, is deprived of a large part of its liberty of action unless the principal ports at home and abroad, available for coaling and refitting, are made so strong as to be reasonably safe, even in the absence of the fleet, against any probable attacks." But what are the probable attacks? If the fleet is absent on some other mission than that of seeking out and paralyzing the efforts of the enemy, the ports will certainly be liable to attack, and the Admiralty will clearly have failed in carrying out its duty as laid down by the First Lord in the

passages I have quoted. But such reasoning is similar to that of more than one critic of our naval strength, who sees every cruiser of the enemy engaged upon the destruction of our commerce unmolested, our own vessels being conveniently absent, or perhaps awaiting the attack on those mercantile ports which appears to be so much dreaded.

It is thus evident that the two Departments are hopelessly at variance upon the very rudiments of national defence; and this absence of agreement no doubt led Lord Hartington's Commission to report that "no plan for the defence of the Empire has been worked out between the two Departments; and in all these subjects a question of principle is involved which no attempt has been made to solve by a final and definite decision." The fault really rests with the Admiralty; first, in not assuming complete responsibility for the defence of harbours, and, secondly, in not pointing out, when it was assumed by another Department, to what extent fixed defences should be carried. In a morbid fear lest the demand for a naval force tied to each port should become too strong to be resisted, the Admiralty endeavoured to find some such division of work by which it was willing to guarantee no enemy should approach the coast in force, but could not be responsible for his not proceeding up harbour! It is as if a policeman should assure a nervous householder that no burglar should enter his garden, but he could not guarantee his not forcing the back door or window.

The Government having come to the conclusion that the principal mercantile ports should co-operate in their defence, an important deputation, headed by Lord Armstrong, waited on the Prime Minister, on January 4th last year, to inform him that five localities (the Tyne, Tees, Mersey, Forth, and Clyde) "declined absolutely to accept any responsibility for the initiation, organization, or maintenance of that defence, beyond expressing their readiness to do their best to provide the men required as volunteers, and to co-operate by placing at the disposal of the Government any local knowledge they possess." It was admitted the need for defence was urgent, and the Government were called upon to provide it, but no indication was given as to what the nature of such defence should be. To emphasize the necessity, it was pointed out by a merchant of Liverpool, "that in the event of Liverpool being bombarded, and the tobacco warehouses burnt, the Government would lose nine millions sterling, the duty represented by tobacco at this moment in Liverpool."

It is thus evident that the uneasiness which was felt during the Crimean War has survived, and in default of reassurance from the Naval Department that it exists to prevent such attacks, the ports cannot be expected to have faith in what is not actually visible. The answer of the Prime Minister cannot be considered as calculated to convey much instruction to the ports and to the country as to the true principles of national defence. It was not pointed out that "our great ports and our great commercial interests must be unequivocally recognized as matters of Imperial concern to be protected by the Imperial Navy," as stated by the *Times* in its leading article on the following day, and that "when the navy is in a position to do this, there is not a great deal more to be done." The deputation is simply told that the Prime Minister and his colleagues "feel very deeply our responsibility for providing for the safety, in case of war, of the commerce, the coasts, the ports, and the access to the ports of the United Kingdom," though this statement was preceded by some general remarks on the necessity for preparation.

It is impossible to feel surprised that the apparent difficulty of obtaining uniformity of definition and treatment of the subject of coast-defence has led to the proposal for a single Minister at the head of both services. Though this was considered and rejected by Lord Hartington's Commission, one member—Lieut.-General Brackenbury—dissented, because he was "not convinced that the Naval and Military Departments, even if they continue to be presided over by separate civilian Ministers, could not be brought together under a Minister with high authority who, in no way interfering with the administration of the Department, should be responsible for a 'combined plan of operations for the defence of the Empire,' and who should act as arbiter between the two Departments; and because I am of opinion that the two Departments will not unite for one duty and one combined work unless they are for that special purpose controlled by one authority." But we have one authority in the Prime Minister, and in this country there can be no other. He is the single Minister at the head of both services, though in time of peace his authority only comes into play at rare intervals. At any important crisis, however, and during hostile operations, the Prime Minister at once becomes the arbiter and supreme head. Nothing is more striking in the history of the old wars than the personality and initiative of Pitt in all the movements of the fleet, and the despatch of combined naval and military expeditions then so frequent. In the *Life of Lord Hawke*, by

Captain Burrows—than which no abler or more interesting piece of naval history has ever been written—there is a most amusing anecdote illustrative of this. Hawke, while employed watching M. de Conflans in Brest, had, through stress of weather, been obliged to put into Torbay. It was November, and very tempestuous. The Duke of Newcastle went to see Pitt, who was in bed with the gout, in reference to sending Hawke to sea again, which he was unwilling to do at such a time. Pitt, however, argued strongly in favour of doing so. The room was very cold, as Pitt disliked a fire when he had the gout, and the Duke was a chilly mortal. So seeing a bed vacant by Pitt's side, he got in without taking off his cloak, and continued the argument, which was carried on with considerable heat.

"I am positively determined the fleet shall sail," said Pitt, gesticulating.

"It is impossible; it will perish!" replied the Duke, with similar contortions.

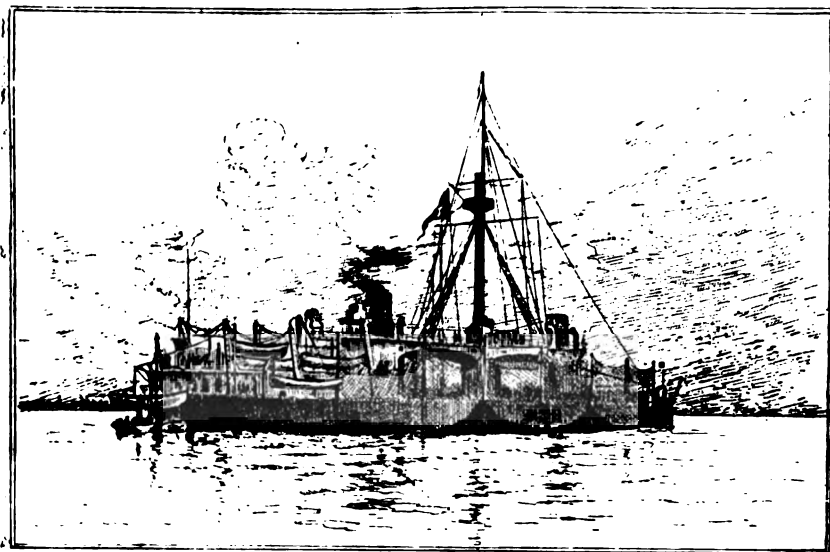
A third person, coming in at this moment, could hardly keep his countenance at finding the two Ministers discussing such an important matter in so novel a situation. Pitt, however, had his way; the fleet put to sea, and the action in Quiberon Bay was the result. This influence was not always productive of success. The abortive expedition to Rochefort in 1757 originated with Pitt, and must have been concurred in by the Admiralty with reluctance, as it was an ill-advised undertaking.

Reverting to the subject of land-defences, and having shown their comparatively recent origin, I will now deal with the claims put forward in their behalf. In this respect, perhaps General Adye may be considered the most formidable antagonist. In a letter to the *Times* of January 7th last year, he advocates land-defences to our harbours, so that "should this country be threatened with attack by an expedition across the sea, it is very important that our enemies should be denied access to our harbours, and should be compelled, at all events, to make their attempt on the open coast." This points to an invasion, but we have been told by a higher authority that the prevention of such attempts is exclusively the work of the navy. If unable to do so, the whole of the open coast should be fortified as well as the harbours. The General states also that land-defences are the simplest, cheapest, and most efficient form of protection required. Against what attack is not stated. It has been shown that a million guns on shore will not enable the approaching commerce to enter in safety if the sea-

defence is incomplete. How, then, can efficiency be obtained? As for simplicity, take the case of a place like Portsmouth, with its dual approach and extended water area, and calculate the number of forts, guns, and submarine mines which this form of defence necessitates. After all, a fort is but an anchored vessel awaiting attack. It cannot advance to attack, and if passed it cannot pursue. The same comparison may be drawn as regards the under-water attack. Torpedo-boats are submarine mines with the power of locomotion, with the corresponding merit which always attaches to an active over a passive defence, whose sphere of action is limited to its immediate neighbourhood. Another drawback to fixed defences is that not only may channels alter from natural causes, but change may take place from commercial reasons in the relative importance of harbours. The decline of the port of Bristol is an instance of this. At the beginning of the century the Bristol Channel was a rich hunting-ground for hostile privateers, and it was even proposed to cut a canal from it to the English Channel, so that our merchant-ships might pass from one to the other without having to run the gauntlet round the Land's End.

A final objection I would urge against the elaborate system of fixed defence we have been constructing for the last thirty years is, not so much that soldiers are without the necessary training for this work, but that it absorbs such a large proportion of the small land force our military organization enables us to maintain. In the debate on the Army Estimates this year, Mr. Stanhope is reported to have said, "The preparations for the defence of all ports and coaling stations throughout the empire were in a very advanced condition, and submarine mining in particular was in a very satisfactory state indeed. The garrisoning of the ports and coaling stations would require the services of no less than 125,000 men, in addition to local levies in certain foreign stations." We were told that the land forces were organized to carry out two main objects. The first was the land-defence of all ports, and to form secondly two lines of defence, one composed of regular troops and the other of volunteers. Speaking with diffidence, it would appear to me that if any eventuality should arise necessitating a large reinforcement to our army in India, this incubus of harbour-defence will be a terrible burden to our military authorities. Where, under present conditions, the two army corps for any European operation are to come from would probably puzzle the strongest advocate of such a policy. In endeavouring to come to some conclusion on this vexed question, it may be asked if there is

no compromise between an entire absence of fixed defences and providing them on the present scale. This is most difficult to answer, because we are so accustomed to associate protection with a fort that we cannot realise safety without it. To this weakness of human nature some concession must be made, and as, moreover, the strongest navy will not prevent the escape of stray vessels, we may grant some local defence for distant and isolated localities. But the main point is to recognize, as enunciated by the *Times*, in an article on March 5th last year, that "fortifications are the subsidiary defence of a maritime Power which does not aim at commanding the sea." When we have given up the idea that the outbreak of war will be the signal for a general attack upon our numerous possessions, independent of any aid afforded them from a navy which has other things to do, then we shall appreciate "that the power to take and keep command of the sea renders elaborate fortification superfluous."



The Garrison Hack.

By RICHARD CLYNTON.



HO that has been a soldier has not come across, some time or other, the much abused Garrison Hack? Now the Garrison Hack, with many faults, is not without her virtues, and frequently she owes her position and her name not so much to any fault of her own, as to the pertinacity of a designing mother, who, having selected the military market to dispose of her daughter, has dragged the poor girl from garrison to garrison in the hope of catching a gilded husband until she is as well known as a village pump. One year the creamy-looking, well-fitting dress, and seductive sunshade are to be seen at the pier at Southsea. The next year the fair Imogene may be seen day after day promenading the Lees at Folkestone, and casting many an anxious glance towards the camp at Shorncliffe. They come in every afternoon in twos and threes, accompanied by the inevitable barrack dog, which is ever ready to fight on the smallest provocation, but masters and dogs return to camp and no progress can be reported.

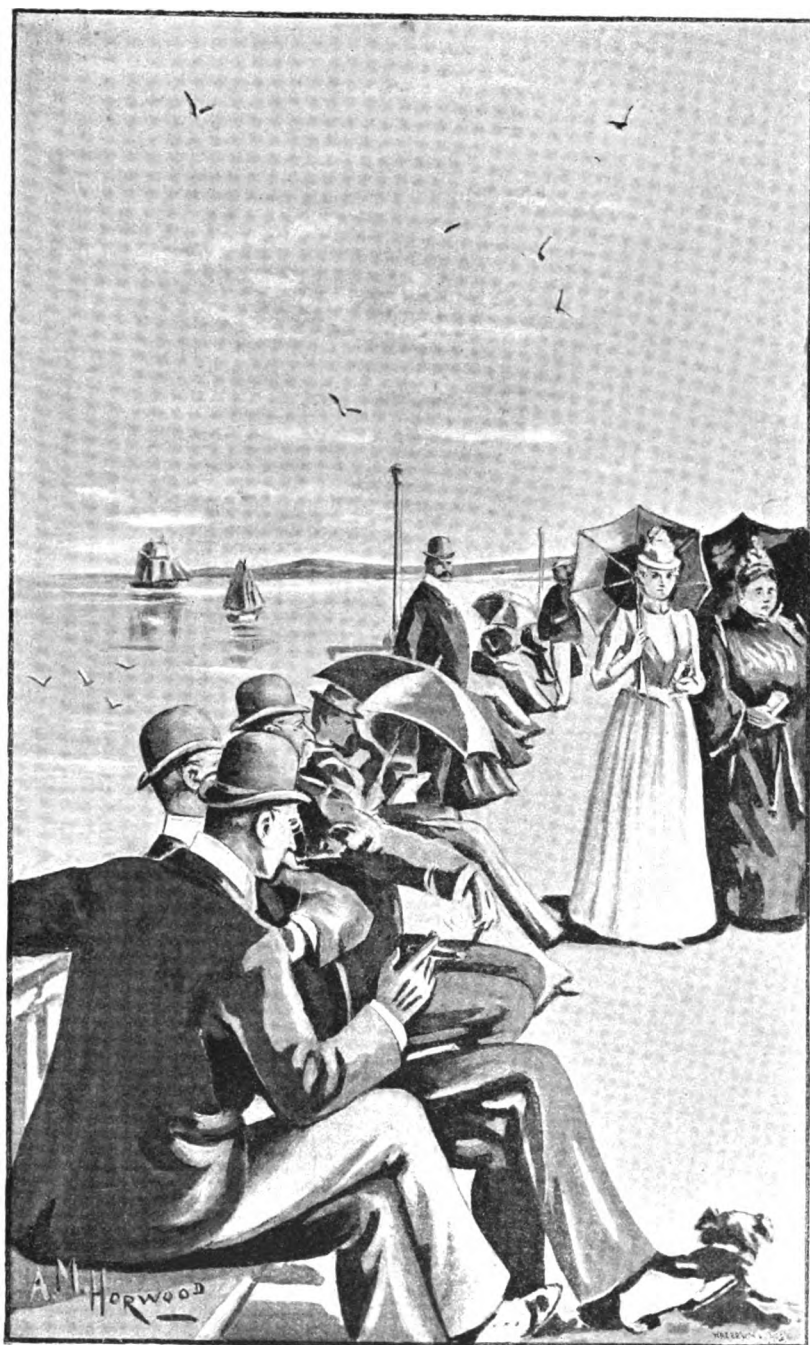
Aldershot is a fine field, well stocked with eligible bachelors, but unless the Garrison Hack has a friend in camp, who, having secured her fish, can offer hospitality to her less fortunate sister, Aldershot is not a good stalking-ground. There are, of course, the race meetings, the cricket-matches, and the club-grounds with the band, but the field, in spite of all these attractions, is not favourable to matrimonial operations, and the campaign seldom goes beyond a mild flirtation which ends in nothing. There is so much to be done at Aldershot. The professional duties are so great; there every man who can keeps a "hair trunk" of some kind or other, and when off parade he is riding over the country. There every man who can afford it, and ever so many who cannot, constantly run up to town, so that, taking all things into consideration, Aldershot is a very bad place for flirtation.

The Garrison Hack generally starts well, is haughty to begin with, and aims high; will not look upon the infantry, and will barely condescend to bestow a smile upon a field battery. When she has not been dragged through too many seasons, when her looks are fresh and pretty, and her affections still unwithered, she has it pretty well her own way, and can pick and choose. She then aims her shafts at the cavalry, and sometimes may catch her butterfly; but more generally he loves, and he rides away. Then how often has a neat little game been spoilt by a Horse Guards' letter ordering a regiment away at a day's notice, when a week's

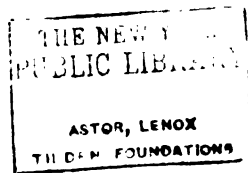


or month's might just as well have been given. The fellow swears he is "deuced" sorry. "Sure to come back, you know;" but the gay deceiver having had time to cool down, never does come back, and the Garrison Hack is left to cock her bonnet at someone else. But there must necessarily be a sad loss of time.

Perhaps she now tries a shaft at the horse artillery, and this is a most picturesque and dashing service, more especially when a man is young; but he should obtain the "jacket" before the curves of nature become too prominent. The horse artillery, however, is never fleshy; the adipose R.A. always retires, and seeks



ON THE PARADE.



seclusion behind the ramparts of a garrison battery. As years roll on, and the Garrison Hack fails to win a heart in the more dashing branches of the service, she then condescends to smile upon the infantry, and by this time she is sufficiently matured to aim at the head of a regiment. To command an infantry battalion is not at all to be despised, more especially if the cavalry have loved and ridden away, and the horse artillery limbered up and retired. The command may not be direct, but even second-hand power to most women is very gratifying. Petticoat government in a regiment does not add to the happiness of the members, frequently quite the reverse. Woe betide the private who dares fool round his commanding officer's quarters, in the hope of snatching a kiss from his commanding officer's cook, if the regiment should happen to be commanded by the C. O.'s lady. Commanding officers never have wives, they are always ladies. Probably the lady knows all about it, having gone through it all herself, and Tommy Atkins is brought up before the nominal head of the regiment, and he is led to understand that it will not be conducive to his happiness if he takes his daily exercise in the direction of his commanding officer's hut or quarters.

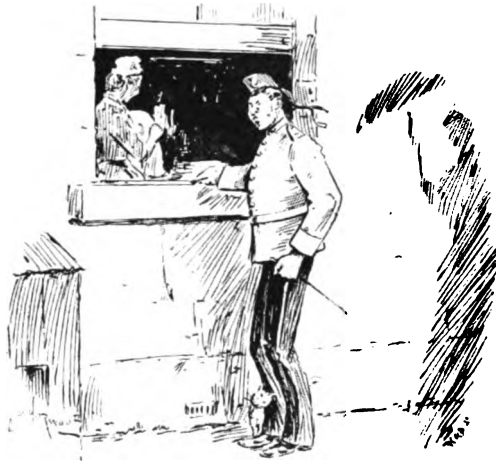
Then, being a female lieutenant-colonel has other advantages. When in country quarters, the colonel and his lady are always asked out to all the local celebrities. The colonel is invited out to shoot, though probably he cannot hit a haystack. Then the hospitality has to be returned, not unfrequently at the expense of the other officers, who may or may not have received great kindness.

At regimental entertainments the commanding officer's lady is in high feather. She acts the part of hostess and receives the guests, and does all the honours while Captain Snooks and Lieutenant Snubington pay the piper, the Colonel, of course, paying only his share. If the colonel's lady is fond of dancing she is sure to have plenty of partners, for every dancing man in the regiment is in duty bound to ask her out, and if she has grown-up daughters they are also in an enviable position in the ball-room.

The Garrison Hack has been pretty well brought up on flirtation, and she cannot get on without her tonic, for it is to her what alcohol is to the drunkard. Generally some subaltern in the regiment is selected to do duty, that is, to dance attendance upon the C. O.'s wife. The officer thus on duty must be present at all balls and parties, and must make himself generally useful by carrying shawls, parasols, &c. The lady, being an old stager,

takes very good care that no scandal shall arise, and though the position may not be dignified to the man who has the privilege of holding it, it is not without its advantages. If he shoots, hunts, or fishes, he is sure of plenty of leave. Then—who can tell?—the commanding officer's lady may be promoted to be Mrs. Major-General, and there is at once an opening for an A.D.C.; then the regimental duty officer will not be lost sight of, and the spiked helmet may be exchanged for the cocked hat and paint-brush of the Staff.

Perhaps looking after the jams and pickles of Mrs. Major-General, and seeing that the plain-clothes butler does not get outside too much of the Major-General's wine, may not be to the liking of all men, but a good many seem to take to it kindly.



Really, the advantages of the infantry are so great that it is not to be wondered at if the Garrison Hack occasionally goes in direct for that branch of the service, even in her early campaigning days, when her looks are fresh and her affections have not been blighted by man's perfidiousness. The infantry, I am prepared to maintain, do make good and steady-going husbands, and compare most favourably with any of the mounted branches of the service. Of course, no reference is made to the carrying departments. The cavalry are apt to be rather skittish, and they make the pace too hot to last; consequently they frequently come to grief early in their career, and occasionally they are given to bolting, and not always with the right person.

The tax-payer may be surprised to hear that many of the

British regiments are commanded by women; but such is undoubtedly the case. Hitherto, the female commanding officer has kept in the background when duty has called her regiment to the front, and has followed rather the example of King David in his dealings with Uriah the Hittite. In the glorious future that is before us, it is to be hoped that this will be changed, and that the female commanding officers will lead their regiments into action; and perhaps in this way much sorrow may be avoided, for experience shows that where the commanding officer's lady plays too conspicuous a part things do not run too smoothly. The relations are not unfrequently strained all round.

Should the Garrison Hack fail to win over any branch of Her Majesty's land forces, she has still another chance, and by no means a bad one. Many of our garrison towns are also sea-ports, and the jolly, rollicking naval officer steps ashore with a large and sympathetic heart. He is proverbially generous, and on shore is a real good fellow, but on his own quarter-deck he is apt to be a bit haughty. There is a little too much of the "off with his head" about him. If the Garrison Hack can lay herself alongside of the naval officer, she may make him haul down his colours, and tow her prize safely into the port of matrimony. Well do I remember a most touching story of a sailor and his lady-love; though, by the way, she was not a Garrison Hack, but a fresh, blooming, and unspooned maiden. The scene was a ball-room in a barracks that lay a few miles back from one of our sea-port towns; a pretty place enough, for the barracks were not of the usual workhouse kind. There was a look of comfort and respectability about them, with trees, a garden, and shrubs. All this is to be accounted for by the fact that the officers' quarters had once been a private dwelling, and had not been designed and built by our Royal Engineers. When we come to look upon our barracks generally, it is a wonder that more soldiers do not kill themselves with drink, or in other ways commit suicide.

The time was midnight, and the door of the supper-room was soon to be opened. Many a glance was turned in the direction of these gates of paradise by many a chaperon. There were secluded spots where lovers could retire and have their say; one of the most favoured of these resorts was behind a door that backed on to a flight of stairs. The "Blue Danube" was rolling through the ball-room, and overflowing out into the garden amongst the flowers and the shrubs. Presently the music suddenly stopped, and so did the shuffling of the many feet, when from the stairs behind the door a

stentorian voice came out as if it were hailing some distant main-top, and said, "I am only a rough sailor, but I shall make you a good husband;" and he did, and they lived happily ever afterwards. No doubt that sailor now is an admiral of the "Queen's Navee," if, indeed, he has not already hoisted his flag in the realms above.

I have said the Garrison Hack has good qualities; so she has. She has seen too much of the world to be easily taken in, and she is too wise in her generation to allow her footsteps to slip. She has had her fling, and is up to every dodge; and she is not likely to fall a prey to the male lion who prowls about seeking whom he may devour. She often makes a good, steady-going wife. She may have left her good looks behind in many a ball-room, but what matters that? In this respect she is not singular, nor in her method of attempting to ward off the ravages of time. Society's female faces are frequently quite works of art, if not articles of *vertu*. The common-place but highly-respectable connubial kiss may to her have as little flavour as a glass of light hock has to the brandy-drinker, and flirtations, after a long experience, may have lost all their attraction; but so much the better, and should she have any daughters, she will take very good care that they do not stray for the want of being well looked after. Indeed, it not unfrequently happens that those who have indulged largely in the female tonic of flirtation become, in after life, the severest judges of those frisky matrons who furnish society with its food for scandal.

Although the term "Garrison Hack" is generally used as a term of reproach, she is not one whit worse than her sister the Society Hack, who, no doubt, like the little Pharisee that she is, thanks her stars that she is ever so much better. The Society Hack has been dragged through half the ball-rooms of London, season after season, by her ambitious and designing mother, until people begin to weary of the very sight of her. The Row has seen her day after day. She attends religiously every church parade, and with her prayer-book in her hands looks as if she has just come from church, instead of out of bed. The little hypocrite looks so good, as if the proverbial butter would not melt in her mouth; but all those who have the smallest respect for their butter had better not try it.

The pace of the Society Hack is very much quicker than that of her sister, and consequently she begins to fade sooner; and if she does not get settled—or, more correctly speaking, settle someone—

she passes quickly into the ranks of the "have beens." After a season or two, one hears the same remark, "Good gad! Here is that Peacock girl spreading her fine feathers again. I thought she had hooked old Stopperback, the rich stockbroker. She tried devilish hard to be the Duchess of Putney, but that did not come off; beaten by the Yankee girl. Back an American to rush a title against anyone, and then when the little democratic devils gain their ends they become the most haughty of aristocrats."

Poor Garrison Hack! there is a reverse side to your medal. I have followed you so far through prosperity. True, I have made the cavalry love and then ride away, and the horse artillery have



followed their example; but I have brought you to comfortable quarters in the infantry barracks, which many think are quite as good, if not better, than any of the other branches of the service—the infantry themselves being of this way of thinking. If the infantry shut their eyes to your many charms, if the honest and rollicking sailor puts to sea and shows you a flowing sheet, how then is it with you? You will have to sit and sigh, and the burden of your song will be, "He cometh not." Poor patient mamma, who has sat through many a long and weary night, and watched you being whirled round and round in the arms of some hopeful one, has perhaps left the scene for ever. Her vigils are over. No more will she sit and wonder whether this or that gilded gay

Lothario really means business, or whether he is only amusing himself and eating her dinners and drinking her wine just in the meantime, and probably saying behind her back how devilish bad it is. How often has she sat with her back to the ball-room wall and wondered whether he will resign himself to her daughter, or whether some morning she will receive a letter of regret and find that the campaign is over in that direction. Often and often has the poor old soul sat immovable at her post and wondered who is going to take her down to supper. If her daughter is young and pretty and in request, she may expect to be taken down as many times as her digestion and capacity will admit of, there being no limit to the one if there is not to the other, so that the healthy chaperon may replenish herself half-a-dozen times or more, if she sees fit. These fortunate ones, as a rule, go away with the firm conviction that it was the best ball they were ever at, while others, less fortunate, will declare that it was about the very worst, there being nothing to eat or drink, and nobody to look after anybody.

I remember once taking an aged chaperon down to supper—I think it was the third or fourth time. She had a lovely daughter, and therefore had not been neglected. I was not a suitor, but the old lady bore me no ill-will on that account, for her daughter had many admirers. The old lady would take nothing but an ice. Whilst this was slowly disappearing, I drew her attention to the colours of our regiment, which were draped against the wall. "Nine poor fellows lost their lives in the Crimea in defending them," I said. The poor old lady put down her ice, and gave me a look of intense agony as she placed one hand to her face. I was sorry now I had touched upon such a subject, and I put the old lady's distress down to sympathy for the poor fellows who fell. Evidently she had a heart. I was rather puzzled what action to take under the circumstances; whether it was an occasion for the application of the palm of my hand between her shoulder-blades. She relieved my anxiety by saying, when she could speak, "I have a tooth that is a little gone, and the cold ice must have touched a nerve; a little sherry, thank you."

If the Garrison Hack fails to catch her fish pretty early, she finds that, year after year, things go from worse to worse, until she becomes almost an object of charity in the ball-room, men "trotting her out" for pity's sake. As her freshness dies away so do her admirers, and she who once never knew what it was to sit out a dance has now to sit out many. Once she was proud and haughty; culled the male flowers of the glittering garden; but

now she has a smile for anyone who presents himself, card and pencil in hand. Often she has to sit and listen to the soul-stirring strains, and to hear the shuffling of the many feet, while she catches a glimpse through the ball-room door of the human whirlpool. Her own feet long to join in, and as some old and favourite waltz tune comes upon her ears, she is carried back, like a witch on a broometick, to some long-past time, and again she moves round the room responsive to the music, in the arms of some admirer. A smile plays upon her face as the well-known voice seems to whisper in her ear soft nothings; but the music stops, and the vision vanishes as if by magic, and she is left to think that it would have been better for her had she been wiser and accepted the black-coated parson. The Church may not be as enchanting as the field of Mars; the human being inside the long clerical garments may at times be a little insipid, having the peculiar vice of a tendency to a large family, which he has often no means of supporting; but he is steady-going, and he is certainly far better than an old age of solitude, when little is found for the human affection to centre upon except, perhaps, a dog, a parrot, or a cat.



Clippings from the Foreign Press.

THE FRENCH ARMY 200 YEARS AGO.—In the *Journal des Sciences Militaires* Commandant Belhomme, in commencing a series of articles on this subject, remarks that history for long was content simply to record events; but this no longer suffices for the curiosity of the public, which now insists on reconstituting the details of life at various periods of the national existence. The French standing army, created by Charles VII., and completed by Lewis XI., afterwards assumed a larger development under Lewis XII. and Francis I., and reached its apogee in the reign of Henry II., thanks to the incessant wars in which those sovereigns indulged. The religious wars arrested its progress, and in 1598 it was altogether disbanded. Henry IV. was about to reorganize it when he was assassinated. Thus when Richelieu began to intervene abroad he had but an imperfect instrument at his command. There were men and to spare, but no internal organization to unite them. "It is not enough," the writer once more reminds us, "that the organization of troops be rational and corresponding to the armament in use at the time; there must also exist divers services which answer the purpose of binding them into a homogeneous mass, providing for their wants, and causing all to act harmoniously with one common object in view." All these elements were but in a rudimentary stage, till Richelieu discovered Le Tellier, and placed him at the head of the French War Department. He remained in office under Mazarin, but was unable during his whole career to establish the army on a permanent basis of organization. This was reserved for his son and successor, Louvois, under whom the French army of the old *régime* attained its zenith of excellence. He died in 1691, and was succeeded by his son, the Marquis of Barbesieux, who allowed it to deteriorate. This is why the writer has selected a point of time exactly 200 years ago for consideration in respect of the French army. Among the interesting facts noted in this essay is the statement that in 1691, after the siege of Mons, Lewis XIV. first allowed the captains of the "Gardes

Françaises" to rank as colonels, the lieutenants as captains, and the sub-lieutenants and ensigns as lieutenants. The number of companies in the regiment was not uniformly the same, but varied from 15, as in the regiment of Périgueux, to 210 in that of Picardy; but this is partially explained by the circumstance that two-thirds of the whole infantry were employed in garrison duty, companies being detached from the regiments composing the field army for this purpose. When a company was to be raised, the King granted his commission to the individual selected to command it, together with 20 livres per recruit to cover expenses. This sum was, however, altogether insufficient; so that commissions were only granted to men of independent means. The Crown supplied the equipment, except the sword and belt, which the captain had to pay for; he had also to provide the clothing, reimbursing himself subsequently by instalments from the pay of the recruits. The paper is most instructive from an historical and antiquarian point of view. The author is attached to the Historical Section of the General Staff of Paris.

HOW CAN UNIVERSAL PEACE BE SECURED?—This seductive theme is eloquently discussed by Herr von Lind in the September number of the *Internationale Revue über die Gesammten Armeen und Flotten*. Quoting Moltke's dictum that the next war would be a European one, of which the duration and end could not be foreseen, the writer affirms that the situation may easily be stated. On one side will be Germany, Austria, Italy and England; on the other, France and Russia. England, indeed, has not openly joined the Triple Alliance, but she has made up her mind to do so, and an outbreak of war would find her on that side. Russia and France are the disturbers of peace, but from different motives. France desires to recover Alsace and Lorraine, a popular aspiration quite natural and even honourable when we consider that it has been dinned into French ears, by those who know better, that those provinces were not German originally, but French. Russia, on the other hand, is actuated by far different desires: she wishes to subjugate Germany and make the Slav race dominant in Central Europe. Thus barbarism will ally itself with culture, each to attain its separate ends. The league thus constituted will be equal to the struggle provoked. Italy is merely loosely bound to the Triple Alliance; language, race, mode of fighting, all differ from Teutonic ways. England cannot afford assistance except by sea, and valuable as this may be, she cannot assist Germany on land

with her attenuated and unserviceable battalions. The consequences to France of a conflict in alliance with Russia would, in the opinion of the writer, be equally disastrous whether success or defeat attended the effort. In the first supposition, self-interest would ultimately compel her to join hands with civilized Europe to withstand a flood of barbarism in Central Europe; in the second, another war contribution, perhaps threefold that levied in 1871, would reduce her to bankruptcy, and might possibly entail another revolution like that of 1789. After all, what has France to gain by making common cause with a half-barbarous Power? Cannot the question of Alsace and Lorraine be adjusted by means of a Congress, which will prove Germany to be historically correct in her contentions, that Lewis XIV., by his Chambers of Reunion and by his treacherous seizure of Strassburg, was wholly in the wrong? France has peace and war in the hollow of her hand. Let her comprehend before making war, and not after it, that her interests as a civilized state incline to the side of Germany rather than Russia; for, after all, next to Germany, France is the most cultured of the nations. This reconciliation once effected, Europe might oppose a united front to the encroachments of barbarism as represented by the Muscovite State. Even then, however (and here the writer begins to relapse into a familiar strain), peace would not have been ensured. Armaments would still have to be kept up, perhaps as huge as the present ones, and these would exhaust the nations, and ultimately produce war from sheer desperation. War cannot be abolished without *mutual disarmament*. But who is to begin? Germany cannot, because France and Russia would instantly take advantage of her defencelessness, supposing that no reconciliation such as we have described had taken place. And here the writer appears to despair, breaking into a feeble wail over the unsatisfactory condition of international morality as compared with that enforced by municipal law. To sum up; until international law is binding on the nations, there will be no general disarmament, and, therefore, no durable peace. But how is this code to be enforced without resorting to force? We must wait for the millennium.

THE PORTUGUESE ARMY UNDER KING CHARLES.—The *Revue* likewise contains a paper on this topic, clearly from the pen of a Portuguese officer. It is signed "*Capitao*." The first sentence in itself proves the one-sided and obstinate spirit in which the Portuguese approach our dispute with them in the matter of Africa. "The Anglo-Lusitanian conflict," writes the Captain, "*does not bear discussion among ourselves*; the question who has right and who might

on their side being as clear as noonday." Having settled this point, he proceeds to affirm that the deep indignation felt by the nation at English arrogance and tyranny has evoked a readiness to undergo any sacrifice for furtherance of the national defence. Portugal remembers the *great deeds she accomplished of old against Napoleon*—our quondam allies, as Sir Frederic Ducane has shown recently in these pages, have quite forgotten all about our share in these deeds—and an army of mercenaries will never be able to overthrow her patriot forces. England may bombard a few maritime towns, and even seize Portuguese colonies, but now-a-days she is not in a position to invade Portugal. Owing to the reforms of King Lewis and those of the present occupant of the throne, Portugal, in 1892, will be able to place in the field no less than 130,000 trained soldiers, with 70,000 of the Second Reserve to back them. The capital is being converted into a vast intrenched camp, with outposts extending as far as Santarem; fort Bugio, at the mouth of the Tagus, is to be converted into an armour-clad structure; four armour-clad guard-ships, ten cruisers, eighteen gun-boats, twenty-four torpedo-boats, and two transports, are to be constructed forthwith! There is something uncommonly ludicrous in this violent fit of chauvinism which, if we are to believe written accounts, is now convulsing Portugal. It reminds one irresistibly of the ancient fable of the frogs and the bull. The aggravating part of the thing evidently is that over here no one seems to pay the slightest heed to all this bluster. Portugal's new armour-clads may be of use to Great Britain in certain contingencies, and her entrènced camp may possibly serve to keep Spanish troops out of Lisbon for a season.

A REMARKABLE ARTESIAN WELL.—General Cosseron de Villenoisy writes, in *La Nature* of the 4th October, that in Fort Barrault, situated on the frontier of Savoy in the valley of the Isère, an Artesian well exists, which is supplied quite differently from all other known wells of the kind. This fort, the General informs us parenthetically, originally built by a Duke of Savoy on French soil, was seized by the Governor of Dauphiné when he saw it approaching completion. It is situated on an isolated mound, with the bed of the Isère below it on one side, and the village from which the fort takes its name on the other. The well in question was dug in days when geological science was yet unborn, and on reaching the depth of forty metres, to the surprise of the explorers, water was found, which gradually rose to within two metres of the summit, a height much greater than the soil on either side of the

mound on which the fort stands. This supply could only proceed from the plateau of St. Pancrace on the Chartreuse Mountains, which overhang the village of Barrault. But the difficulty of the case consists in the fact that the inclination of the strata of this range is in a direction contrary to the fort, and that the streams to which it gives birth flow northwards into the Rhone above Lyons. The water, concludes the General, must consequently plunge through a break in the strata to a depth lower than the fort, thence re-ascending to its own level. In this consists the anomalous character of the well, no other case of the kind being known to exist.

THE ENTRENCHED CAMP AT PARIS.—The *Rivista Militare Italiana* for September briefly discusses this question. Pointing out that "Paris occupé c'est la France frappée au cœur," the writer avers that in other countries the fall of the capital does not usually entail a collapse of national resistance. This truth has been repeatedly illustrated in modern times, while the surrender of the French capital in 1814 ruined one of Napoleon's most brilliant strategic combinations. But apart from political considerations, others of a strategical nature necessitate the conversion of Paris into a fortress. It is situated near the confluence of the Seine, the Marne, and the Oise, the valleys along which invasions have ever, and must always, take place. Consequently it occupies a point of the first strategic importance. It is now surrounded by a triple line of works. First, there is the old *enceinte*, constructed in 1840, which is a simple parapet flanked by bastions, having a circumference of 36 kilometres. The second line is formed by seventeen detached forts, built in 1840-41-42, at a distance varying from 3 to 6 kilometres from the *enceinte*, the line having a circumference of 53 kilometres. After 1871 a further ring of detached forts was formed, at a distance of from 8 to 12 kilometres, and occupying the points of vantage which the German batteries had used during the siege. These are distributed in three principal groups, which constitute as many entrenched camps, viz., at Versailles, Vincennes, and St. Denis. The circumference of these new fortifications measures 140 kilometres. Two concentric lines of rail encircle the whole system, the "chemin de petite ceinture" within the *enceinte*, and the "ligne de grande ceinture" between the old and new line of detached forts. The cost of the new works was estimated at 135,000,000 francs, and it is reckoned that 180,000 men will be required to garrison them, not including the army which would be required for sorties in

force. The writer is led by these enormous figures to ask whether a fortress on such a gigantic scale does not constitute a grave danger rather than a protection to the state, in swallowing up its resources in men and materials; but we must remember that it would not be fully occupied till disaster had driven the French field armies into it for safety. Two gaps exist in the new line, viz., between Fort Palaiseau to the east of Versailles, and between St. Denis and Vaujours to the north-east of the city. An investment of Paris would now require three times the number that sufficed in 1871.

PARIS AS A SEA-PORT.—In the *Journal de la Marine* for the 13th September a new project for connecting the French capital with the sea is discussed. It takes its name from one of the promoters, M. Sébillot, and, instead of being traced along a river valley, as is usually the case, this canal is to be cut along the succession of plateaus, almost uniform in height, which extend between the valleys of the Eure and Seine. From the sea-level vessels are to be raised to the requisite altitude by mechanical means, of which a drawing accompanies the text. The ship is floated into a movable wet dock, and then hauled up an inclined plain by hydraulic action. Arrived at the summit it is transferred to the canal, which extends in one uninterrupted sheet to the vicinity of Paris, near the heights of Garches, at a height of about 100 metres above the general level of the city. This circumstance, it is pointed out, will act prejudicially to its general utility, since cargoes will be with difficulty discharged, owing to the lighters, which chiefly perform this office, not being able to approach the projected port.

NEW FRENCH BATTLE-SHIPS.—The same newspaper for the 4th ult. furnishes particulars of two of the three French battle-ships whose construction has recently been provided for in the budget, viz. the *Lazare-Carnot*, and the *Charles-Martel*. The French Ministry of Marine has not followed the example set by ourselves and Italy in laying down monster armour-clads of 14,000 tons and upwards, both of these new constructions being under 12,000; in fact, their displacement does not exceed that of the *Formidable* and the *Amiral Baudin*, the latest addition to the French navy. But the speed developed is greater, and their guns are better protected. M. Weyl, indeed, writes that the auxiliary battery of 14 cm. guns on board the *Formidable* could be destroyed by melinite shells, while in the new designs the 14 c.m. guns, as well as their heavier neighbours, are to be enclosed in turrets. He admits that the

earlier ships are already out of date, and hopes that during the four years which it will take to build the latest ones, no fresh advance of artillery science will have rendered them also obsolete. As regards the *Jauréguiberry*, the third of the triad, little appears to be known concerning the details of her build and armament. Battle-ships, it would thus appear, now become antiquated before they are in a condition to put to sea; and this state of things must last till a naval battle shall demonstrate practically the value of current theories; and then some of the older vessels may possibly turn out to be more serviceable than more recent additions.

PREMATURE BURSTING OF A DYNAMITE SHELL.—The *Mittheilungen aus dem Gebiete des Seewesens* records the failure of an attempt made in America by Dr. J. Gilbert to fire a projectile of this kind from an ordinary cannon. It was enclosed in an iron case 11 mm. in thickness, and the charge of the gun was of slow-burning "cocoa" powder. On ignition of the electric tube a frightful report was heard, and huge masses of metal were hurled in every direction, to the intense alarm of the spectators, who were pretty numerous. The shell had burst inside the bore; but no one was injured. The accident is attributed to the casing of the shell not having been made of sufficient thickness, as others filled with a larger amount of dynamite have already been discharged without accident.

THE GIFFARD GUN.—The *Revista Técnica de Infantería y Caballería*, published in Madrid, writes of this new weapon in its September issue. Denying that it is in any way a novelty, but essentially the same idea which is embodied in the patent taken out by the inventor in 1872 for "Improvements in air-guns and guns discharged by compressed gases," the writer predicts that the weapon will only be useful as a pea-rifle for shooting gallery purposes, or as a toy to amuse in the drawing-room. Carbonic acid in a liquid state, which is the motive power employed, is not so cheap a substance as the inventor seems to imagine, especially when used in the great quantities required for military purposes; nor could it be kept under the requisite pressure. The liquid carbonic acid now sold in Germany in 10 litre flasks is subjected to a pressure of from 50 to 75 atmospheres, which would be totally insufficient for the quality required for military weapons.

A RUSSIAN LADY'S OPINION OF ENGLAND.—Hitherto we have always believed that French tourists in this country contribute the most to our amusement by their naïve descriptions of what they

have seen and heard; but we must admit that a Russian lady, who has the courage to subscribe her name, Madame Jelikovskaya, has now surpassed the funniest of them in "Sketches of English Life," contributed by her to the St. Petersburg magazine, *Work*, in its issue of the 15th September. She commences her experiences with the Houses of Parliament, whose architecture she is good enough to approve. But the interior of Westminster Abbey, according to her, resembles a museum of sculpture rather than a church, for it contains the tombs of all who are rich enough to pay for the honour. She thought, at first, that Beaconsfield's statue was outside it because he was a Jew, but was mistaken for once. Nevertheless, there are plenty of unbelievers buried inside; for instance, Darwin, and doubtless his ancestor, the gorilla, would be admitted to sepulture if it had enough money to pay for the privilege! (The writer, be it mentioned, is very severe on the coarseness and indelicacy of the English.) As an enemy of England, the writer is naturally a strong advocate of Home Rule for Ireland; and, indeed, a measure of the probable effects of that scheme may be taken from the fact that it commands the universal approval of our most inveterate foes. Lady Georgina R—— acted as cicerone to the traveller. She is described as the "elderly sister of a peer," and has been appropriately rewarded for her delicate attentions to the fair tourist by being styled "a talkative old girl" in her narrative. Let us hope that in future she will avoid inquisitive tourists from abroad. Lady Georgina pointed out Lord Salisbury in the House of Lords; he was stroking his grey beard and frowning heavily, with a disconcerted air. "He is not in a good temper to-day," Lady Georgina remarked, "the speeches of the Home Rulers have annoyed him—Gladstone, *Sir John Morley*, and their friends; then there is the affair of Mandeville and Dr. Ridley." Mandeville, we are told, a famous Irish patriot, and robust athlete, died of consumption after leaving Tullamore jail, and "all Dublin cried out" that Government had starved him to death in order to get rid of him; that it was useless to accuse Dr. Ridley, but the Viceroy, *Spencer*, was to blame, and his right hand, *Balfour*, the Secretary for Ireland. (The "Red Earl," by some inscrutable dispensation of Providence, is denounced along with Mr. Balfour throughout the article.) In the House of Commons this censor of our institutions was vexed in spirit by the iron cage of the Ladies' Gallery. "It is strong enough," she exclaims, "to keep a whole menagerie of lions, tigers,

and elephants from leaping on to the heads of the Ministers of the Crown!" Her guide suggested that it was made to prevent legislators from being unduly distracted from their arduous labours by the contemplation of female charms. During prayers, she became cognizant of the fact that Ministers and Conservatives prayed more fervidly than the rest, and we must thank her for being candid enough to record the fact. Her description of Mr. Balfour rivals that which, in bygone days, was current among England's foes as the likeness of Pitt—and the Irish Secretary may imbibе legitimate comfort from the circumstance:

A tall, ugly man, with a very insignificant and unpleasant countenance, a projecting lower jaw, scanty hair on a head which resembles a cocoa-nut, mean features, and a sardonic grin from ear to ear, sprawled on the benches more than the rest, trying to reach the table, where sat the clerks, with his heels.

This spiteful sally is almost sufficient to raise Mr. Balfour to a level with Napoleon, Pitt, Bismarck, or any of the most exalted, and therefore best abused, of mankind. But the critic discovers his "pendant" in ugliness on the opposite Bench. This is no less a personage than Mr. Bradlaugh, "the atheist," whose contemptuous attitude during prayers was plainly detected by the eye of the Russian eagle. "But have done with him," cries the lady; "he looks like a toad!" The eloquent Harrington naturally commands her unstinted admiration. When he calls Balfour an "impostor and liar," sitting down amid thunders of applause, while his adversary sneaks abjectly from the House, this rises to enthusiasm. He is followed by Flyn, who attacks Lord Spencer, denouncing him as devoting his whole time to photographing himself in various costumes. (The writer has evidently not yet got wind of Mr. Balfour's golfing propensities.) With our social life she is just as unsparing in her criticisms. Music and art are not understood here. The Royal Academy of 1888 exhibited a miserable collection of pictures. There is not a single meritorious piece of music extant which is of English composition. Worst of all, ignorance among the middle classes is so crass that an English tourist who visited Kieff in 1882, at the time of the celebration of the anniversary of the conversion of Russia to Christianity, obstinately maintained that half the people were still Pagans before that year. Our visitor evidently does not comprehend one British institution: to wit, "chaff."



Naval Summary.



THE accident which occurred last month on board the *Katoomba*, one of the new cruisers for the Australian Squadron, while trying her engines alongside the yard at Elswick, seems to have been precisely similar to the still unexplained mishap which took place on board the *Barracouta* last spring, by which three men lost their lives and several others were seriously injured. Fortunately, on this occasion no one was very badly hurt, and with one or two exceptions those injured are now completely recovered. It is probable, however, that this accident will still further delay the completion of the squadron, and it is now unlikely that they will be able to leave this year, as it is contemplated to make considerable alterations in their boilers. The *Inflexible* has left for the Mediterranean, to relieve the *Orion*, which ship, it is now stated, will be paid off at Malta, instead of returning to England. The *Basilisk* and *Serpent* have also both sailed for their respective stations, the first relieving the *Flamingo* on the south-east coast of America, and the other taking the place of the *Archer*, which vessel proceeds to China. The *Ringdove* and *Lapwing* have both made successful commissioned trials, having attained a speed of 13·2 knots, and have left for Australia and the East Indies respectively. The *Barrosa*, after having had some of the tubes removed from her boilers, so as to improve the circulation of the water, was sent to make a continuous full-speed trial of 96 hours in the Channel, under forced draught, but after the first 36 hours she was compelled to ease down so repeatedly by fogs, that she had to give the trial up and return. Still, as far as it went, the run was very successful, the engines and boilers giving no trouble whatever; so good were the results considered to be, that the Admiralty propose to remove two vertical rows of tubes from each of the double-ended boilers of the torpedo dépôt ship *Vulcan*, and also of the *Thunderer*, both of which ships will shortly undergo their steam trials. The *Vulcan* is having her under-water tubes altered to receive the new 18-inch

torpedo, and some important improvements have been effected in her ventilation, while, in view of the introduction of the smokeless powder for the 4·7 quick-firing guns, she is being strengthened in the wake of her guns.

The first-class battle-ship *Superb* has made a satisfactory trial of her machinery at Chatham; the full-speed trials at sea are not, however, to be undertaken until the *Thunderer* is ready for hers, so that a comparison of the results achieved by the two vessels may be obtained.

The third-class cruiser *Blanche* has completed a satisfactory full-speed trial of her engines, maintaining a speed of over 16 knots, while the *Skipjack*, one of the new torpedo gun-boats, has also been undergoing a series of trials under forced draught. An order was given not to exceed 3,500 h.p., but she attained 60 in excess, and realised a speed of 19·8 knots. As the contract power is 4,500, it will probably be easy to realise the maximum speed of 21 knots without unduly pressing the boilers, while the difficulty with regard to the hull not being strong enough to resist the strain of her engines seems at last to have been overcome.

The *Sheldrake* and *Salamander* have been similarly strengthened, and are also now to undergo their long delayed forced-draught trials. The Admiralty have, however, ordered the preparations for building the *Leda* and *Alarm*, two of the eighteen new gun-boats of this class, to be stopped at Sheerness, and important modifications, both in the designs of the hulls and in their machinery, are to be made.

We announced in our last number, by mistake, that the heavy armament of the two new second-class battle-ships, *Barfleur* and *Centurion*, was to consist of four 68-ton guns; we should have stated, four of the new 30-ton 10-inch guns. The construction of the *Crescent* has been begun at Portsmouth, so that all the nine first-class cruisers are now fairly under way, and three of her sister ships, the *Hawke* at Chatham, the *Edgar* at Devonport, and *Centaur* at Portsmouth, will all probably take the water before the end of the year; the remaining five building at private yards are not so far advanced. The *Hecla* is, after all, not to be converted into a telegraph-ship, Messrs. Siemens having reported adversely to the proposal. The Admiralty have wisely decided that the crews of the four battle-ships acting as flag-ships at the home ports are to be increased to the complements they would carry if serving as first reserve ships.

The naval correspondent of the *Globe* calls attention to the per-

formance of the French first-class cruiser *Cécile* the other day, in making a continuous run of twenty-four hours at an average speed of 18 knots, developing just over two-thirds of her maximum horse-power, and he doubts if we have any cruiser that would come anywhere near her performance. As a matter of fact, the *Orlando* has made three or four runs during the last eighteen months in Australia, averaging over 18 easily, and without in any way straining her engines and boilers. It is, however, hardly fair to draw comparisons between the French ship and even the *Orlando* class, for although the *Cécile* is about the same tonnage as our belted cruisers, her horse-power is 1,000 higher, 9,600 against 8,500, and while the *Orlando* and her sisters are only 300 feet long, with a 56-foot beam, she is 378 feet long, with a beam of only 49 feet. The moral he draws is, of course, correct, as to the insane folly of our constructor's department in their persistence in building our ships too short. It only needs to refer to the late successful trials of the French third-class cruiser *Surcouf*; she is 1,850 tons, that is, about the same tonnage as our *Brisk* and *Archer* class and the latest Admiralty failure, the *Barham*; yet, while the *Surcouf* maintained for three hours a speed of 20·8 knots, without any injury to her boilers, all attempts to screw even 17 knots out of our ships of a similar tonnage have completely failed. But then the *Surcouf* is 312 feet long, with a 31-foot beam, while the *Barham* is only 280 feet, and 35-foot beam, and the *Archer* class are only 225 feet long, with 36-foot beam. Yet so slow are our constructors in learning the lesson of their repeated failures, that we are actually building twenty-nine so-called second-class cruisers with a length now of only 300 feet. They are supposed to steam 20 knots; it will be curious to see what their real speed will be.

From Brest we hear that the new armoured cruiser *Dupuy-de-Lôme* is to be launched about the 28th of this month (October). The following changes in the constitution of the French Mediterranean Squadron are to be made: the first-class battle-ship *Hoche*, instead of taking the place of the *Marengo* as flag-ship of the Northern Division, proceeds to Toulon, replacing the obsolete *Trident*, flag-ship of Rear-Admiral Alquier; the *Devastation* relieves the *Amiral Duperré*, which ship requires extensive repairs to her boilers, while the new cruiser *Cécile* takes the place of the second-class cruiser *Milan*, and the *Surcouf* relieves the *Epervier* in the Northern Squadron. Preparations are at last being made for commencing the building of the three first-class battle-ships,

the money for which was included} in the Navy Estimates voted last year by the Senate and Chamber of Deputies; they are to be named the *Lazare-Carnot*, *Charles Martel*, and the *Jauréguiberry*, and are to be built at the Toulon, Brest, and La Seyne dockyards respectively. We must defer to another number a detailed description of them. An order has been issued from the Ministry of Marine to the authorities at Toulon for the construction of a large submarine vessel similar to the *Gymnote*, with which some very successful trials have been made; she is to be named the *Sirène*, and is to be 180 feet long.

We need not refer here at much length to the late combined naval and military operations in Schleswig-Holstein before the German Kaiser. The English navy was represented by Admiral of the Fleet Sir G. P. Hornby, Captain A. Moore, and Lieutenant Hornby. The naval section of the operations began on September 6th, when the Emperor took command, hoisting his flag on board the *Baden* flag-ship of Vice-Admiral Deinhard. The main idea of the operations was to meet and destroy an enemy's fleet, which had passed through the Great Belt, and was steaming towards Kiel. The enemy was represented by six floating targets, and the German fleet consisted of the *Baden*, *Bayern*, *Oldenburg*, *Württemberg*, *Kaiser*, *Deutschland*, *Preussen*, and *Friedrich der Grosse*, which steamed in columns of Divisions in line ahead, preceded by the *Ziethen*, *Irene*, and *Pfeil*, as scouts. Towards the evening, on sighting them southward of the island of Alsen, the formation was changed to single column, the line passing parallel to that of the foe, and then returning, each time pouring in a heavy fire.

It was observed that the chief damage was done by the light and machine-guns, the practice from the heavy guns not being good. Much credit is given for the exactitude with which station was kept, and the precision of all the movements.

On the following day 3,000 men were landed in excellent style to assist the attacking force, their guns being dragged with great celerity up the slope and brought into position. There is no doubt that Sir G. Hornby and his companions were much impressed with all they saw, and particularly with the daring and skill with which the young German officers handled their torpedo-boats. The German ships are good, clean, efficiently kept, well manned, and admirably handled; at the same time, the German blue-jackets are not seamen in the sense our men are. The German Government takes a landsman and tries within three years to make a sailor of him; the result is, that although the men are smart,

obedient, and serviceable, they do not altogether cease to be landsmen, and are deficient in our own men's many-sidedness, resource, and adaptability. Of the officers, nothing but good is to be said; they are highly educated, smart, and have learnt to be seamen, and are probably, as a body, more highly trained than our own.

The manœuvre fleet has now been broken up, but the head-quarter staff, with Vice-Admiral Deinhard at its head, is retained, in order to draw out the reports on the manœuvres of the past year, and to prepare the plans for next year. The training squadron, under Rear-Admiral Schröder, will winter as usual in the Mediterranean.

The Austrian squadron which was present in the Baltic during the manœuvres has returned to the Mediterranean, and the ships will be paid off on their arrival at Pola. They attracted much attention, especially the protected ram-cruiser *Kaiser Franz Josef*, a new ship only just completed, which was commanded by the Archduke Stephen; the two ironclads, *The Crown Prince Rudolf* and *Crown Princess Stephanie*, are also both new ships, while the fourth ship, the *Tiger*, is a torpedo-despatch vessel.

Last month, at Pola, was launched the *Kaiserinn-Elizabeth*, a new armoured ram-cruiser; she is 339 feet long, 47 feet 6 inches beam, and of 4,060 tons displacement; she has a protective deck 2½ inches thick, and above this, over the most important portion of the ship's length, is a water-line belt of cellulose; the engines are of 9,800 h.p., and the ship is to have a speed of 19 knots under forced draught. She will carry two 27-ton Krupps, one forward and one aft, in barbettes faced with 4-inch steel armour; she will also carry, in sponsons between the barbettes, four 5·9-inch 6-ton Krupps and thirteen quick-firing guns, with six torpedo-tubes, one of which discharges right ahead.

The new Russian battle-ship, the *Twelve Apostles*, was launched last month at Nicolaieff with great ceremony; she inherits a name very familiar to Englishmen during the Crimean war, and which was then borne by one of the 120-gun ships at Sebastopol. The new vessel is 320 feet long and 60 feet beam, with a displacement of 8,200 tons, engines of 8,500 h.p., which are to give a speed of 15·5 knots. The ship has a partial belt of compound armour from 16 inches to 12 inches in thickness, and a steel protective deck. She will carry four 12-inch 52-ton breech-loading guns in barbettes, four 9-inch 15½-ton guns, eight quick-firing guns, and ten machine-guns; she has six torpedo-discharges.

The new Greek ironclad *Hydra*, constructed at the works of the Société des Ateliers et Chantiers de la Loire, at St. Nazaire, has completed her trials, having maintained a speed of 17·4 knots. She and her two sister ships, the *Spezia* and *Psara*, also constructed in France, are second-class ironclads of 4,855 tons displacement, 384 feet long, 52 feet beam, and 6,700 h.p. They are protected by a complete water-line belt of Creuzot steel of 11·8 inches, tapering to 4·7 inches; the foremost casemate and barbette are protected with 13·7-inch armour, and the after with 11·8 inch. The armoured deck is 2 inches thick, and above this deck is another belt 2·9 inches thick, for protection against shells with high explosives; beneath this armour is a cellular coffer-dam, and then come the bunkers. Their armament consists of two 10-inch guns in fore barbette and one in after, while in a central battery between the barbettes are four 6-inch guns, and, in addition, there are twenty-three quick-firing guns, with three torpedo-tubes, one in the bow and one on each broadside; they are built of steel, with ram bows. Rear-Admiral Lejeune, who for the last six years has been the head of the Commission sent by the French Admiralty at the request of the Greek Government to re-organize their navy, has returned to France, and the mission has been dissolved.

We must defer to another time our remarks on the armour-plate experiments at Annapolis, in the United States, full reports not having yet been received, also extracts of interest from the last report issued by Krupp.



Sporting Notes.

THE stalking season on Deeside has been an exceptionally good one. One of the best stags of the season fell to the Prince of Wales's rifle in Mar Forest, and scaled 16 stone. The prettiest head was obtained in Glentamar by the Attorney-General, and Sir Charles Hall shot the heaviest stag in the same forest; it scaled nearly 18 stone.

Lord Mayo has killed one of the finest stags of the season at Muckcross, near Killarney. It scaled nearly 30 stone.

During the past season Lady Lambeth has killed several stags in Abernethy Forest, Inverness-shire.

Prince Victor Dhuleep Singh has had some good partridge, black game, and hare shooting with the Earl of Carnarvon at Dulverton.

The Marquis of Hartington's party at Bolton Abbey bagged 2,341½ brace of grouse this season.

Lord Ailsa has leased an extensive tract of sporting ground in Switzerland with salmon fishings.

Wildfowlers say that there is a great scarcity of teal this year. On the other hand, hares are reported more numerous than last year.

On the large estates of the Archduke Albrecht in Slavonia, where the largest oaks and the biggest stags in Europe are being found, the Hereditary Prince of Nassau has brought down a splendid stag, with twenty points to his antlers.

The Duke of Cambridge is to shoot with the Duke of Grafton at Euston Hall during the month.

Amongst other fine head obtained by the Crown Prince of Nassau at Belley, Hungary, was one of twenty points.

After several failures, ptarmigan have at last been induced to breed in the Faroe Islands.

The Natal Government have given Mr. Armitstead of Dumfries an order for a second supply of trout *ova*, the first consignment having hatched out satisfactorily.

The Duke of Newcastle has stocked the lake at Clumber with black bass, specially imported from America.

The Duke of Roxburgh has let the famous Floors Castle water, on the Tweed, to Lord Londonderry for the present month. The Tweed fishes best in November.

Captain Roe, of H.M.S. *Black Prince*, while fishing in the Tavy killed a splendid peal, weighing $21\frac{1}{2}$ lbs. It is said to be the largest fish of the kind ever taken in this river.

Capital sport has been obtained at Waterville Lake, in Ireland, but the lochs of the Highlands have yielded magnificent sport this season, more especially the Sutherland and Argyllshire waters.

The Duchess of Portland, who is an expert angler, has killed a large quantity of salmon, grilse and sea-trout in the River Berriedale, Caithness, during the season.

Admiral Sir George Tryon, during his tour of inspection in Scotland, had some good sport among the trout in the Western Islands.

Lord Wimborne killed ten salmon to his own rod in a single day on the Tay last month.

Most encouraging reports are received from the various hunting centres. In Warwickshire and Devonshire foxes seem to be unusually plentiful, and some merry sport is being obtained. There are plenty of foxes in the Pytchley, Fitzwilliam, Rufford, and Ledbury countries. Good reports come from the Borders. In Berwickshire and Dumfriesshire the farmers are nearly all hunting men, and the foxes are well looked after.

The Duke of Beaufort has purchased some of Lord Portsmouth's hounds. It is officially stated that there will be no deer-driving in Windsor Forest this year.

Golf is making rapid strides in popular favour, and bids fair in time to rival even cricket in England. Several English noblemen

have laid out golf courses on their properties, including Lord Leconfield, who has just formed a nine-hole course for the pursuit of the game in his noble park at Petworth.

Sir Edward Birkbeck has grown a splendid crop of tobacco of the "white barley" variety. Sir Edward had also a good crop last year, which he sold at 6d. per lb.

The Earl of Carlisle is forming a large herd of pedigree Gallo-ways on his home farm at Naworth Castle.

Lieutenant Bower has returned from his shooting expedition in Yarkand, bringing with him seven heads of the *Ovis Polii*, the largest being a very fine one of 61 inches. He reports that he was received with great civility by the Russians at Samarcand, but with customary arrogance by the Chinese at Yarkand.

The Cup won by the Staff of Lord Connemara at the recent Bangalore Polo Tournament has been presented by the winners to his lordship.

Mrs. Adair, the wealthy American widow, has leased Beechwood, Sir John Sebright's lovely seat in Hertfordshire.

Chinese pheasants were introduced into the vast forests of Oregon less than ten years ago, and they have increased to such an extent that it is estimated that there are now at least a million of them in the country.

The Earl of Shannon is purchasing a stud of genuine Irish hunters for his stables at Castlemartyr.

About a hundred years ago the game-keepers dropped live rabbits as they rambled over the estates in Kincardineshire, in order to feed the foxes. Now the foxes would require to be introduced to keep down the rabbits.



A List of Military Inventions

PATENTED DURING THE TWO FOREGOING MONTHS.

[This List is specially compiled for the ILLUSTRATED NAVAL AND MILITARY MAGAZINE by Messrs. Rayner and Cassell, Patent Agents, 37, Chancery Lane, London, W.C., from whom all information relating to Patents may be had gratuitously.]

- 12,881. An improved manufacture of material to be employed in ship-building and in the manufacture of armour plates, and for other purposes. **ERNEST ZAPPERT**, 28, Southampton Buildings, London. (Carl Searneo, Austria.)
- 12,850. So discharging smoke that the operations of troops in action are much concealed from an enemy. **WM. NELSON HUTCHINSON**, The Lodge, Silverdale, Eastbourne.
- 12,913. The improved method for the protection of the bottoms of iron and steel ships and other submerged metal constructions from fouling and corrosion. **WM. SPENCER BOWEN**, 11, Norfolk Road, Gravesend.
- 12,978. An improved attachment for the back sight of fire-arms. **JOHN DENNIS BATES**, 6, John Street, Bath.
- 12,994. Improvements in breech-loading ordnance. **ALFRED LONGSDON**, 33, Chancery Lane. (Friedrich Krupp, Germany.)
- 13,194. Improvements in ship's davits. **WESLEY MCFEE**, 172, Fenchurch Street, London.
- 13,263. Improvements connected with the aiming and sighting of guns, and holding and guiding their projectiles. **JOHN CARRINGTON SELLARS**, 15, Water Street, Liverpool.
- 13,561. An improved construction or arrangement of two-bladed propellers. **WM. HAMILTON**, 166, Fleet Street, London.
- 13,655. An improved regulator for marine engines. **GEO. LOVE**, Malton House, Quebec, co. Durham.
- 13,900. Improvements in and in connection with armour plates for ships of war, fortifications, and the like. **FREDK. CHAS.** London. (John Edwin Sherman, United States.)

SPECIFICATIONS PUBLISHED.

- 14,798. **PETT**. Ships' logs. 1889. 8d.
- 14,752. **FRANCIS** and others. Bullets. 1889. 6d.
- 13,200. **EWART**. Adapting ordnance for use with miniature ammunition. 1889. 11d.
- 16,334. **LONGRIDGE**. Breech-loading ordnance. 1889. 8d.
- 14,086. A self-signalling target. **FREDERICK FRANCIS FEREDAY**, Wootton Hill, Milton, Hants. September 8th.
- 14,161. Improvements in shells and other projectiles. **JOSEPH ELTON BOTT**, 23, Southampton Buildings, London. September 9th.
- 14,921. An improved roller target for rifle practice. **WM. WRIGHT**, 2, Saltash Street, Plymouth. September 22nd.
- 15,078. The adaptation of rudders for the purpose of stopping ships. **JOHN BURNIP FORSTER**, Western Terrace, East Bolton, Newcastle-on-Tyne. September 24th.
- 15,241. Improvements in cartridges for breech-loading ordnance. **GEO. QUICK**, Glenbank, Carlton Road, Bournemouth. September 26th.
- 15,336. Improvements in or relating to range-finders. **JAMES DE HOGHTON**, 323, High Holborn, London. September 27th.
- 15,419. Improvements in shells or other projectiles. **CHARLES MERINGTON**, Chipping Hill, Witham, Essex. September 30th.
- 15,507. Armstrong's improved top wad for shot gun cartridges. **ARMSTRONG & Co.**, 10, Neville Street, Newcastle-on-Tyne. October 1st.
- 15,735. Improved loading device for breech-loading repeating-guns. **PAUL MAUSER**, 23, Southampton Buildings, London. October 4th.
- 16,210. Improvements in gun mountings to reduce friction in working. **EDWARD WM. ANDERSON**, 24, Southampton Buildings, London. October 11th.

SPECIFICATIONS PUBLISHED.

- 14,678. **NEWTON** (Nobel). Cartridges, &c. 1889. 8d.
- 14,025. **BUTTERFIELD** and **BACHELOR**. Damp-proof cartridge-cases. 1889. 8d.
- 20,709. **LINTOTT** and **TALLACK**. Cartridge pouches. 1889. 6d.
- 8,621. **FORD**. Guns and rifles. 1890. 8d.

The above specifications published may be had of Messrs. Rayner Cassell, 37, Chancery Lane, at the price quoted.

Reviews.

Old Sea Wings, Ways, and Words in the 'Days of Oak and Hemp.
By ROBERT C. LESLIE. With 135 Illustrations by the Author.
(London: Chapman & Hall, Limited. 1890.)

Mr. Leslie has written the sort of book which one likes to have handy on one's library table, so that it may be opened at any moment and at any page, with the certainty of interest. No such pleasant book on the antiquities of sea-life has preceded this one, and the sort of cosy, gossiping way in which the author traces out the origins of sea materials, customs, and words, would make the study attractive even to a layman. His neat and graphic pencil affords him a great advantage, and the outline illustrations give an additional life to the text; but what conveys the real point to the text is the under-current of soft humour which pervades it. The author begins by having a quiet little cut at the scientific encyclopædist, who desires to discourse of sails and sail-power by way of algebraic expression, before he turns to the better way, the poetico-historical aspect of a mode of propulsion at sea on which the greatness of England has been based, but which is now discredited. The author leads us through the various forms of sails which have obtained all over the world, and shows their gradual changing shapes in Europe, not, however, scientifically, but conversationally, leaving the reader's thought sufficient freedom to form theories for himself. He shows the transition from the lateen to the square sail, how the one preceded the latter, and how both were combined in the transition ships. We are a little surprised that he has not dwelt more on the steps of the change from mizen to spanker in our war-ships, which forms a little history in itself. And, again, from the scientific point of view, perhaps the rise of the staysail and jib in square-rigged ships is interesting to trace. There are splendid instances of the intense conservatism which used to surround sea life in the retention of the mizen-yard after the sail had become a spanker, and the retention of the sprit-sail after the jib had superseded it. We are not quite clear that in some of his sketches the author is chronologically accurate. There is, opposite to p. 42, a drawing of a French corvette given as an eighteenth century ship, in which the modern spanker is shown. But it is certain that, in the English navy at least, the modern gaff was *in transitu* as late as 1798. It was then open to captains to demand gaffs instead of lateen-yards, but if they made no demand the

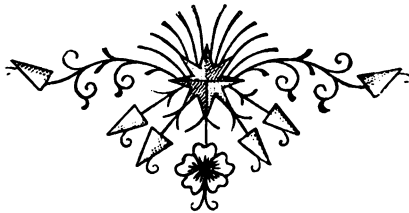
yard was supplied. The author pushes back "the invention of the bowline," as Monson calls it, by a couple of centuries. Monson, writing in the middle of the seventeenth century, speaks of it as happening in his own time, but Mr. Leslie quotes a verse which shows it to have been in use perhaps two centuries earlier. Possibly, like the jib, its application to the regularly square-rigged ship's sails was looked upon as an invention, though it had long been in use in smaller vessels.

Mr. Leslie is in his glory over the old figure-heads, to which he devotes two chapters, and then passes on to the old methods of displaying lights at sea; and the forms of the lanterns. And very quaint indeed was the idea of our forefathers that a big lantern and a big light were synonymous. Very interesting also are the chapters on "The Old Ship Farm," and "Early Navigators and their Nautical Instruments," as well as the descriptions of life on board passenger and other ships a century ago. In the glossary of old sea terms, which closes the book, it is possible the author does not do as much as he might have done, and is not always quite correct; as, for instance, his definition of the "Snow" as differing from the "Brig." But in a book full of a quaint and old-world research, it would be strange if some slight errors did not creep in. Even these promote a gentle kind of controversy in the mind which make Mr. Leslie's work all the pleasanter companion.

Russia's Railway Advance into Central Asia. By GEORGE DOBSON.
(London: W. H. Allen & Co., Limited.)

The author, correspondent of the *Times* newspaper in St. Petersburg, with great difficulty obtained permission from the Russian Government to accept the invitation of General Annenkoff to the ceremony at Samarkand which marked the opening of the Central Asian line as far as that city. In this volume he gives a pleasing and instructive account of his journey, which was of course not marked by any great variety of incident, passing as the route does through desert land for the greater part of the way. A very few years ago the trip might have been sensational enough, but Russian discipline, severity, nay cruelty, have reduced the wild Turcoman to order and the dead level of civilized observances. The book should be of service to those interested in questions connected with the defence of the north-west frontier of India. The completion of the line has abridged Russia's communications to a degree which has redressed the balance so heavily inclined against her by the excavation of the Suez Canal. Whether, having surrounded Herat with her advance guard, she could hurry forward reinforcements from Europe faster than Great Britain could ship them by the Red Sea and the Indus is now a matter for calculation. What a transformation has come over the aspect of the Central Asian Question during the last twenty years! Twenty years ago the Trans-Caspian route had not been worked, and

India was literally defended from Russian Turkistan by the gigantic mountains, barriers, and vast deserts which have since excited the derision of the critics, wise like the rest of us after the event. The Central Asian line was laid down, we gather, in a very hasty manner in order that it might be opened on the 27th May 1888, the anniversary of the Tzar's coronation; in fact, the rails were not properly bolted in parts, and travelling thus possessed the charm of peril as well as variety. It is also insufficiently provided with culverts to allow the water to escape during floods, which are not infrequent, without damaging the permanent way. Sandstorms will also sometimes obliterate the track, in spite of various expedients devised to protect it from their encroachments. The writer performed the latter stages of his outward journey in company with the notorious Colonel Alikhanoff, and once more demonstrates that the devil is often "not so black as he is painted." The spirit of fairness which pervades the author's opinions cannot be too much applauded; he never allows political prejudice to obscure his mental vision when discussing Russian affairs, as is too often the case with our journalists. But then he has had the advantage of living in Russia, and consequently knows how to estimate the excellent qualities of her people. Yet he is no Russo-phil, and he faces the truth unflinchingly that, owing to the jostling of their interests, the two nations are, politically speaking, adversaries in the present phase of the world's history. The book is embellished with good illustrations, from photographs taken on the spot, also with several sketch-maps to elucidate the text.



Foreign Sequipe Magazines.

SUMMARY OF ARTICLES.

REVUE DU CERCLE MILITAIRE. (Paris: 37, Rue de Bellechasse).
Nos. 37 to 41. 1890.

The Fortifications of the St. Gothard (No. 37)—Recent Progress in European Navies (No. 37)—Muskety-Fire in the Field (No. 37) The Russian Railway Troops in the Manœuvres at Volkynia (No. 39)—The Protection of the Trans-Saharan Railway (No. 39)—The Manœuvres of the IX. German *Corps d'Armée* (No. 39)—The Grand Manœuvres in Switzerland (No. 41)—Notes on Russian Turkestan.

REVUE DE CAVALERIE. (Paris: Librairie-Militaire, Berger, Levrault et Cie., 5, Rue des Beaux Arts.) September 1890.

Pajol (*concluded*) by General Thoumas—The Well-Trained Horse (*concluded*)—Cavalry Quarters in France and Abroad—Notes on Cavalry Manœuvres in the Camp of Châlons.

REVUE MILITAIRE DE L'ÉTRANGER. (Paris: L. Baudoin et Cie., 30, Rue et Passage Dauphine.) 15th and 30th September 1890.

The Horse Conscription in Germany—The Effectives and Budget of the Cis-Leithan Landwehr in 1890—The Military Forces of Sweden (*continued*)—The Influence of Smokeless Powder on Tactics—Field Works in the German Army—The Regulations of 1890 on the Musketry Instruction of Austrian Infantry—The New Equipment of the Dutch Infantry.

JOURNAL DES SCIENCES MILITAIRES. (Paris: L. Baudoin et Cie., 30, Rue et Passage Dauphine.) September 1890.

Commissariat Tactics (*continued*)—The Tactics of the Three Arms—The Campaign of 1814 (*continued*)—Smokeless Powder and Musketry Instruction—Historical Notes on the General Staff (*continued*)—The French Army in 1690.

REVUE D'INFANTERIE. (Paris: Henri Charles Lavanzelle, 11, Place St. André des Arts.) September 1890.

The French Army: As It is, and As It should be (*continued*)—The Organization of the Administrative *Personnel* of the Army—The Use of Cavalry in Conjunction with Infantry—Austria-Hungary in the Coming War—The German Repeating Rifle.

JOURNAL DE LA MARINE. LE YACHT. (Paris : 55, Rue de Château-dun.) Nos. 653-657.

Paris as a Seaport ; Sébillot's Plan (653)—Ballooning in the Navy (654)—The Trials with Creusot Steel Armour Plates in America (655)—The Japanese Cruiser *Itsuku Shina* (655)—The Italian Naval Estimates (657).

LE PROGRÈS MILITAIRE. (Paris : 34, Rue du Mont Thabor.) Nos. 1,029 to 1,038.

The French Manœuvres of 1890 (1,029)—Dismounted Fighting (1,032)—Discipline (1,032)—Voluntary Enlistments (1,035)—The Cavalry in the Grand Manœuvres (1,036).

LA FRANCE MILITAIRE. (Paris : 11, Place Saint André des Arts.) Nos. 1,920 to 1,947.

The History of the French Army (1,920, &c.)—The Partition of France (1,923)—The Remount Question (1,927)—The German Language in France (1,928)—The Grand Manœuvres in Belgium (1,930)—The French Ship Canal (1,931)—Field Works (1,942)—The Swimming of Rivers by Cavalry (1,945).

INTERNATIONALE REVUE UEBER DIE GESAMMTEN ARMEEN UND FLOTTEN. (Rathenow : Verlag Von Max Babenzien.) September 1890.

How can the Peace of the World be Preserved ?—The Development of Modern Naval Tactics (*concluded*)—Naval Mobilization—The Tactics of the Three Arms—The Portuguese Army under King Dom Carlos.

JAHRBUECHER FUER DIE DEUTSCHE ARMEE UND MARINE. (Berlin : Richard Wilhelmi.) September 1890.

The Battle of Tel-el-Kebir—The Italian Army and Navy during the First Six Months of 1890—Armourclads and Their Use in Action—Italian Fortifications.

MITTHEILUNGEN AUS DEM GEBIETE DES SEEWESENS. (Pola : Druck und Commissionsverlag von Carl Gerold's Sohn in Wien.) Nos. 8 and 9. 1890.

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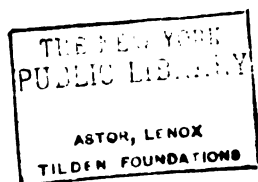
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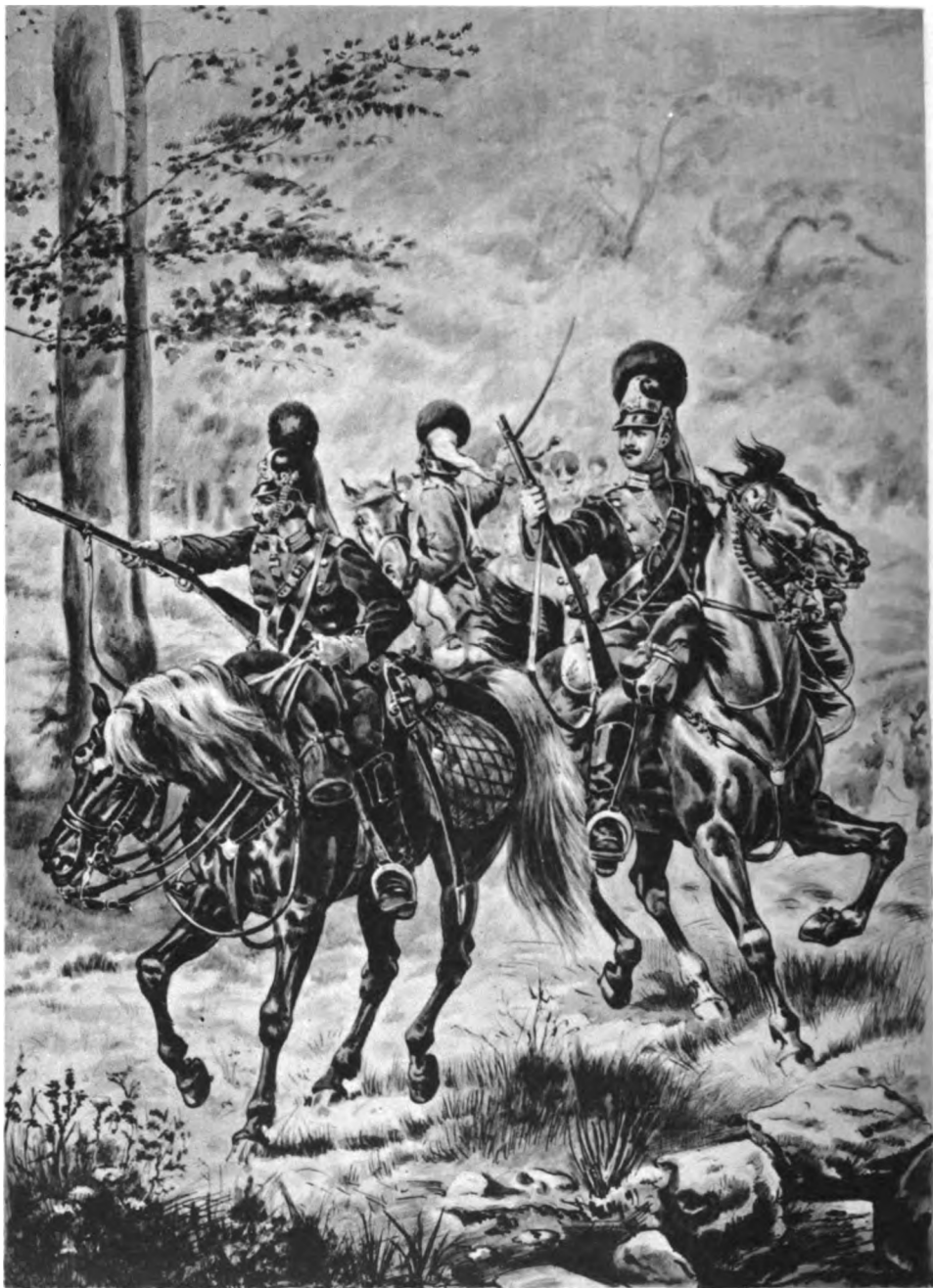


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No. 24.

DECEMBER 1st, 1890.

Vol. VI.

The American War, 1861-1865.*

By T. M. MAGUIRE, LL.D.

IV.



THE passage of a river in face of a numerous and resolute enemy is one of the most hazardous operations of war. Under such circumstances most commanders shrink from a direct attack, and strive by manœuvring to effect their purpose on the enemy's flank, but even then they are in much danger. They will probably find their antagonists ready for action on some strong position, and may thus have to form front to flank and fight soon after the passage, as was the case with Napoleon at Wagram and with McMahon at Magenta. After a successful passage in front the enemy will certainly be soon found in a strong position, and he must be attacked under the unfavourable condition of a river in rear in case of a repulse, into which there is a danger of being driven. It was the weakness of Lee rather than personal capacity that saved Burnside from this fate after his disastrous failure at Fredericksburg.

* Vide vol. v., p. 576, August 1890.

Covered by about 150 guns on the heights behind, the Federal engineers began to lay down pontoon bridges across the Rappahannock on the night of the 10th December 1862, below Fredericksburg for Franklin, who was to attack on the Confederate right, and above it for Sumner, who was directed against their left ; while Hooker was in reserve. It is only fair to say that the last-named was opposed to the entire operation.

The workmen at the upper bridge were so seriously harassed by fire from some Mississippi regiments who occupied the town that they were obliged to desist again and again. Burnside then ordered the bombardment of the town ; 147 guns were turned against it, and no less than 7,350 shells fired into it. But the sharpshooters continued to fire after the place was in flames, till driven out by a Federal brigade which passed in boats in the evening.

The bridges were completed on the evening of the 11th, and two corps immediately began to pass, and drove in the Confederate pickets. The passage continued next day in the midst of a fog, and with little interruption from the enemy.

The best part of Burnside's plan was a turning movement against Lee's right along the old Richmond road, running from the direction of the river past the edge of the ridge occupied by the Confederates and so southward ; but this was spoiled by an order to seize Hamilton's Hill by a division—a thing impossible. Burnside's orders issued for the battle of the 13th were most uncertain, and so puzzled the generals entrusted with their execution that Franklin's career was ruined in consequence. Burnside himself took charge of the right of the line of battle, and his ablest aide-de-camp, Hardee, attached himself to the left. A desperate attack on the Confederates' right, by Meade's division of 10,000 men of Franklin's corps, in the direction of Hamilton's House, having driven aside a gun with which Pelham had enfiladed them, advanced within a few hundred yards of the position, when they were shaken by a sudden and severe fire from Jackson's artillery. However, recovering themselves, they forced in the front line under Hill, but they were met by the second line and forced step by step down the slope and across the railway, followed by the enemy into the plain. But this assault on the right was scarcely over when the left became the scene of one of the most sanguinary incidents in modern war.

Under an awful fire of artillery and small arms, the Federals charged Marye's Hill in the most determined manner. French's

division of Sumner's force rushed forward over broken ground in columns of brigades, and in spite of gaps in its ranks that could be seen at the distance of a mile, reached the base of the hill where Longstreet's men, posted behind a stone wall which was parallel to their position, drove them back by an appalling musketry fire at close quarters. Nearly half the force fell on the spot, and the remainder fled under a withering artillery fire. Hancock's division took French's place; his attack lasted fifteen minutes, and he lost 2,000 out of his 5,000 men in that time. Burnside now displayed the utmost agitation, but declared that the "hill must be carried," and ordered a third charge, which he entrusted to Hooker's reserve. "Fighting Joe," in spite of his dauntless courage, protested, but in vain; and after trying to destroy the stone wall with artillery fire, sent Humphrey's division against the fatal hill. To carry the Spicheren heights or the hill at Laon would have been an easier task. The soldiers were ordered to throw off their knapsacks, not to load their rifles, but to trust to the bayonet. About sunset they charged over the dead and wounded of their own army. Of course they failed, and with a loss of 1,760 out of 4,000. This decided the battle; but on the Confederate right Jackson began to assume the offensive. He believed that as the Federal *morale* was now broken, the bayonet would complete the work; but when he moved he was saluted by such a severe artillery fire that he gave up the idea, and, as it was now sunset, the engagement closed by some artillery shots from thirty guns under Stuart against the right on the Federal troops, who were falling back to the banks of the river.

Burnside formed the desperate and very foolish resolution of forming the Ninth Corps in columns of regiments, and leading it in person against Marye's Hill the next morning. He was with difficulty dissuaded from so doing by Sumner. However he could not endure the thought of retreating, and lingered on the southern bank of the river throughout the 14th and 15th, with bands playing and flags flying. But on the night of the 15th, in the midst of a storm, the beaten army sought security under cover of its guns on the north bank.

The losses, according to the best authorities, were Federals 12,000, Confederates 1,800. There was an absolute lack of either strategical or tactical skill on the former side. Everything was done as the defenders desired, and the courage of the men was scandalously wasted in futile efforts. Meade, with 10,000 men, could not hope to defeat Jackson with double the number on the

strong position near Hamilton House. Franklin, with 55,000 men, might have done so ; but in spite of all the clamour afterwards raised against this general, it is clear that his orders would not have allowed him to use more than a division. The assaults on Marye's Hill were a deplorable series of blunders, but the honour of the soldiers was untarnished ; to quote a Confederate writer, "it is doubtful if, in any battle, men displayed greater gallantry. They rushed headlong, not only once, but thrice, into the focus of a frightful front and cross fire of artillery and small arms, losing nearly half their number in a few minutes ; the ground was littered with their dead, and yet the foremost had only been able to approach within sixty yards of the terrible stone wall in advance of the hill. There they fell, throwing up their hands to indicate that they saw at last that the attempt to carry the hill was hopeless."

The battle of Fredericksburg is another proof of the truth of the axiom of war, that to attempt to pass an unfordable river at a known point in presence of a prepared army, demands a great superiority of force, especially of artillery, and after the passage is accomplished this force must be carefully as well as bravely handled.

Ought Lee to have immediately followed up the repulse of the enemy by driving them into the river ? They were broken, demoralized ; their general had lost his head, his subordinates had lost confidence, the men were disgusted with their leaders ; it is proverbial that a panic rapidly spreads among beaten troops if pressed closely, with a river in their rear. On the other hand, if he descended into the plain, the Federals, who were still very superior in numbers, might turn on him, and he would have exposed his men to the fire of the numerous guns on the other side of the river.

There is an extraordinary story that Jackson strongly recommended a night attack, and, in order to prevent the mistakes which accompany such manœuvres, suggested that they should all strip stark naked.

But on the information at his disposal, Lee was probably right ; his army had done enough for the present ; it would not have been well to tempt fortune. Why should he risk his few men unnecessarily ; as he said, "no one knows how brittle an army is." But it now appears that so demoralized had the Federal army become after the battle that a vigorous attack would probably have resulted in its utter rout.

Thus the year 1862 ended in the defeat of the fourth great effort of the northern armies to reach Richmond.

General Lee's strategy, which had been so brilliantly triumphant, has recently been discussed by such distinguished authorities that it is scarcely necessary to criticise it just now, but his mode of life in these terrible crises may well be studied. His habits were the extreme of simplicity, there were no evidences whatever at his head-quarters that he was Commander-in-Chief, or even an officer of high rank. He lived in a house tent not differing in any particular from those used by the private soldiers of the army in winter quarters, though he might have used the best houses in the neighbourhood, which were placed at his disposal by their owners. His furniture was of the plainest. He seemed utterly indifferent to personal convenience or indulgence. All presents of luxuries he sent at once to the hospitals for the sick soldiers. He was abstemious in all things, cared nothing for wine or any other stimulant, and never used tobacco. When not riding along his lines or among the camps to see in person that the troops were properly cared for, he generally passed his time in close attention to official duties connected with the well-being of the army, or in correspondence with the authorities at Richmond. He was an especial favourite with children, in whose society he delighted. His moral character was beyond criticism, and his piety was as sincere as it was unobtrusive. Cooke says, "the men universally felt that their commander was equal to any and every emergency, and they had a profound admiration for his soldiership. Throughout the campaign Lee had not been heard to utter one harsh word; a patient forbearance and kindness had been constantly exhibited in all his dealings with officers and men; he was always in front, indifferent plainly to personal danger, and the men looked now with admiring eyes, and a feeling of ever-increasing affection, on the erect, soldierly figure in the plain uniform, with scarce any indication of rank, and the calm face, with its expression of grave dignity and composure, which remained unchanged equally on the march and in battle."

Throughout all the varying phases of this tremendous struggle for national existence, Lee was esteemed alike by friend and foe, nor was he ever forgetful of the counsel which, in the *Faerie Queene*, Belphœbe gives the would-be knight:—

Abroad in armes, at home in studious kynd,
Who seekes with painfull toile, shall Honour soonest fynd.

The unbroken monotony of Federal failure against the brilliant

southern strategist in Virginia tempts one to seek variety in the far more interesting theatre of the West, where, along the Mississippi and its tributaries, the Unionist leaders were more equally matched with their opponents, where the conditions of warfare were grand and novel and exciting beyond precedent, and where the Northern soldiery, owing to their outdoor and adventurous avocations were better fitted for the struggle than their fellows of the eastern states. But nevertheless it is well to keep as much as possible to the one theatre till it is exhausted, as it is evident that a careful and continuous study of any particular territory will reveal the character of the warfare of which it is the scene. It is advisable, therefore, to follow the northern efforts against Lee till the battle of Gettysburg enables us to pause, and bring all the other operations into line as it were, preparatory to the grand and decisive movements which brought about the final triumph of the Stars and Stripes.

Burnside's defeat produced a profound impression in his country, and many English and other critics foresaw the speedy destruction of the United States; indeed, wiseacres among European statesmen were already contemplating means of securing to their several countries shares in the spoil of their dissolution. Of course, in the representative assemblies the usual clamour followed upon defeat. The brave Franklin was made a scapegoat for not more decisively attacking the Confederate right, and ultimately relieved of his command, although he had been wanting neither in obedience to his superior, nor in vigour, nor in courage. But an agitation, in which many of his leading officers were not ashamed to take part, soon sprung up against Burnside himself, and his resignation was accepted by the President, January 25th. Sumner, who has been seriously stricken with illness, was also relieved of his functions, and died aged seventy-two, before the commencement of the spring campaign. The army fell into a deplorable state of disorganization for some time. "Croaking" was heard on all sides, from divisional generals to privates.

If *moral* be of much importance, the army of the Potomac was in desperate straits. Mr. Swinton says, "It would be impossible to find a graver or gloomier, a more sombre or unmusical body of men than the army a month after the battle. And, as the days went by, despondency, discontent, and all evil inspirations, with their natural consequent desertion, seemed to increase rather than to diminish." However, the next movement at head-quarters

tended to the general satisfaction, and certainly resulted in the restoration of good order.

General Joseph Hooker was appointed to the chief command 26th Jan. 1863 ; his conduct in the field had justly earned for him the nickname "Fighting Joe." He is said to have been "brave, handsome, vain, insubordinate, plausible, and untrustworthy"; but he had plenty of dash, his self-assertion may have disgusted the judicious, but his confident tone was contagious among the mass of his men. They soon recovered hope and spirit, and were ready for the fray. His energy was conspicuous, and he set to work to promote the efficiency of his army with his usual vigour ; he abolished the "grand division" arrangement, consolidated the cavalry into a valuable corps, and enforced strict discipline among officers and men alike. Great things were expected from him, and, as he differed from some of his predecessors, in being of the same political views as the officials at Washington, his position was the pleasanter. He made active preparations for crossing the river again as soon as the weather permitted, but as in the preceding year the miry condition of the country rendered movement on a large scale impossible. It did not prevent a "raid" on the part of the Confederate cavalry. The Federal head-quarters were at Falmouth, and their base was at Acquia, an attempt on their part to strengthen their left by taking advantage of the swollen condition of the Rappahannock to bring up some gun-boats was repulsed by the artillery of W. F. Lee, son of the great Commander-in-Chief, while Fitzhugh Lee, his nephew, took some cavalry round the enemy's right, cut the railway and telegraph lines, and even penetrated into his camp and took some prisoners. Some Virginian troopers under Captain Mosby made a rush as far as Fairfax Court House, and captured General Staughton.

Our readers will have already observed the leading part played by cavalry in this war, not exactly on the battle-field proper, but in reference to all strategical movements. So leading was the rôle of this arm that Lieutenant F. V. Greene says, "the true use of cavalry in modern warfare was developed in our civil war ; in scouting and reconnaissances, in independent raids against lines of communication and supply, in following up a retreat and in doing its heavy fighting always on foot." Some military writers are fond of prophesying that "raids" will be a leading function in future European wars, but before being too dogmatic on this point they should carefully weigh the differences between European and American theatres. We must be content here, in lieu of any full discussion

of this most important point, with a quotation from Prince Kraft zu Hohenlohe. "Well may the heart of many a soldier throb, when he reads, how in America great masses of cavalry made marches a week long, through immense tracts of country, over mountain and valley, through rivers and woods. A *raid* means an incursion made by a large mass of cavalry, during which this force is not only made for a time independent of the regular command of the army, but is unable to count upon any daily support from the latter, and is thus absolutely detached and left to itself, while its communications with its own troops are necessarily often temporarily cut by the enemy; being thus situated it proceeds, obeying the good pleasure of its leaders, to execute the duty which it may have been intended to carry out. . . . I cannot possibly accept the conclusion that because raids were possible and useful in America, it must be advisable to employ them in Europe. In the American Civil War of Secession, as in all civil wars, the population was everywhere divided into parties. The raiding cavalry found friends everywhere, even among their enemies. The means of obtaining news, the care of the wounded, and the subsistence of the troops took quite another character when it was possible to count upon the willing assistance of at least a part of the inhabitants. Moreover, there were large forests in which the cavalry could conceal themselves and march quite unseen. On the other hand, the vast extent of uncultivated tracts of land and the virgin forests made it necessary to ride over enormous distances before reaching the enemy. The whole character of the conduct of the war was different, and that which was good in America might perhaps be only a source of failure in our country."

It will be necessary to describe some wonderful raids later on, so we will now revert to the posture of affairs on the Rappahannock.

With the spring the Federals were to resume the offensive in every direction. Grant and Banks, assisted by the fleets of Farragut and Porter, were to act with vigour on the Mississippi line. Rosecranz was to hold on to the Tennessee River; Admiral Dupont and General Hunter were to capture Charleston; Foster and Peck were to attack the communications of Richmond from the south, while Hooker was advancing directly on it from the north. The last-named officer, whose force amounted to about 140,000 men, while Lee had not more than 50,000, as two divisions of Longstreet's corps were detached south of the James, might with advantage have delayed his movement till some of the other operations were in a forward condition, but then a large proportion of his men

were veterans of the call of April 1861, and their time would soon expire. He had no wish that his army, which, with characteristic magniloquence, he described as the "finest on this planet," should be weakened by their departure, and accordingly he began his operations in the middle of March. His plan was to pass the Rappahannock above Fredericksburg, turn Lee's flank, and force him to fight under unfavourable conditions, or to [abandon his



GENERAL LONGSTREET.

position and retire on Richmond. With this view he proposed to send 20,000 men under Sedgwick across at Fredericksburg, who were to occupy the enemy while the main body was crossing higher up and marching into a position between Chancellorsville and Fredericksburg (12 miles), the column on the left was then to recross north, and marching to the upper ford, support the right and centre.

Meanwhile, a very powerful force of cavalry was to push rapidly forward in advance of the right and cut the railways in Lee's rear. The great objection to this plan was, of course, that it implied separation of force; but this criticism disappears before the fact that Hooker's strength was three to one. Another objection is, that when Sedgwick had gone to join the main body, the Federal base to Acquia would be quite uncovered (Fredericksburg to Acquia 14 miles), but the Confederate force was too small to take advantage of this. Lee's right was at Fredericksburg, his left at Chancellorsville, and his cavalry under Stuart had its headquarters at Culpeper, and guarded the banks of the Rappahannock and kept the staff well informed of every movement of the enemy. Hooker had declared that the enemy must "either ingloriously fly or come out from behind his entrenchments and give battle on our own ground." Lee did not fly, and he skilfully selected his own ground for singularly bold and judicious manœuvring.

The district of country near Chancellorsville is called the Wilderness, and is about the very last place that any army would select for its operations, and as it had so much influence on the strategy and tactics of both parties, alike in 1863 and in 1864, it requires careful description. (*See map, p. 495.*) The region is a nearly unbroken expanse of dense thicket, pierced only by narrow and winding roads. There is not a single house for miles. Chancellorsville, a large country house, used as a roadside inn, was in its centre, on the main roads running from Orange Court House to Fredericksburg. A little to the westward the Old Turnpike and Orange Plank roads unite, as they approach the spot, where they again divide, to unite a second time a few miles to the east, where they form the main highway to Fredericksburg. From the north come in roads from United States and Ely Fords, Germanna Ford is north-west; from the south runs the Brock road in the direction of the Rapidan, passing a mile or two west of the place. It was such an impracticable region that Hooker in 1863, and Grant a year later, had not the least desire to fight till they were clear of its "stunted evergreens, dwarf chestnuts, oak and hazel, with an undergrowth of low-limbed bristling shrubs;" but both were compelled to make it an arena by the superior ability of their antagonist. Its difficulties during the battles were multiplied by art. "A battle there seemed impossible; apparently artillery could not move, cavalry could not operate, the very infantry had to flatten their bodies to glide between the stunted trees. That an army of 120,000 men should have chosen that spot to fight

40,000, and not only chosen it but made it a hundred times more impenetrable by felling trees, erecting breastworks, disposing artillery *en masse* to sweep every road and bridle path that led to Chancellorsville—the fact seemed incredible.”

General Averill, with 8,000 cavalry, crossed the Rappahannock at Kelly's Ford above its junction with the Rapidan, and made a determined attack upon nearly 800 horsemen under General FitzHugh Lee with the object of passing through Culpeper, crossing the Rapidan, and cutting Lee's communications in the direction of Gordonsville. Lee, however, resisted gallantly, and Averill was obliged to recross the river. The principal loss of the Confederates was the most promising young artillery officer, Major J. Pelham. Till the end of April things were quiet; Hooker had now completed the re-organization of his army; it consisted of seven corps: 1st Reynolds, 2nd Couch, 3rd Sickles, 5th Meade, 6th Sedgwick, 11th Howard, 12th Slocum. There was also a corps of cavalry under Stoneman, with four divisions under Pleasanton, Buford, Averill, and Gregg. More to the rear a corps under Stahl, in place of Sigel, removed, and another under Heintzelman, held Washington and the Potomac.

On April 27, corps 5, 11, and 12, set out from Falmouth with provisions for eight days, and on the 28th crossed the Rappahannock at Richard and Kelly Fords. They then marched south in two columns, Meade on the left, Howard and Slocum on the right, and passed the Rapidan at Ely's and Germania Fords, and marched on Chancellorsville, Hooker with Sickles, Couch and Reynolds followed by United States Ford, as Bank's Ford was closed by the Confederates. On April 30th 80,000 Federals were about Chancellorsville, across the road from Fredericksburg to Gordonsville, and they then stopped and began to entrench themselves by very formidable works, for which the vast woods supplied ample materials. At the same time Stoneman made a rapid march on Culpeper, and reached the central railway below Gordonsville, and tore it up, and pressed on to the James River, ravaging the country, a remarkable raid, but he would have been much better employed covering Hooker's exposed right flank.

Sedgwick made the feints which had been ordered with the object of deceiving Lee. On the night of the 27th he threw three bridges across the river near the mouth of the Deep Run below Fredericksburg, and put two divisions across without opposition. On the 29th the Confederates saw clearly that the enemy had divided into two great masses, between which they might be crushed. But

Hooker did not push ahead on the 30th; he made the fatal mistake of halting and fortifying his position, probably expecting that Lee would be obliged to make a ruinous front attack. But Lee adopted his usual skilful system of detaining and flanking forces, and completely turned the tables on his adversaries. With remarkable promptitude he took advantage of his central position, he withdrew his left to Salem Church on the 29th. On the 30th he turned to his left with all his forces, except two divisions, and twelve guns, which remained in the Fredericksburg lines under Barksdale. He then resolved to hold Hooker in his front by two divisions, whilst the mass under Jackson should turn their right flank and drive them into the river. This most daring manœuvre was successfully carried out.

At nightfall on the 30th, Jackson set out by the road from Old Mine to Germania Ford. On the morning of May 2nd he was on the height of Chancellorsville to the Federal right, where he left Hill's division to link him with Lee and with Rhodes, and Trimble's divisions he marched against Hooker's rear on the road from Orange to Fredericksburg, between Wilderness Tavern and Chancellorsville. He reached Wilderness Church on the afternoon of the 2nd. Hooker's folly in not pushing on on the 30th was now apparent. He had a chance of falling on Lee while Jackson was occupied in the Fredericksburg position, but he had halted, and instead of cutting off Lee's small army, his own flank was in imminent danger, and the works on which he relied were not seriously assailed. Lee seemed to be certain that his demonstrations with two divisions, and his artillery could hold Hooker, otherwise the latter might by a bold movement have destroyed the force in front while Jackson was moving round his right. The defeat of Lee by either Sedgwick or Hooker at this junction would have resulted in the capture of Richmond.

The Federal right under Howard was to the south-east of Chancellorsville about Dowdall's Tavern. Half its men were Germans, and many of its officers had fought in the wars of 1848 in Europe. About 5 o'clock Jackson's divisions, issuing from the paths in the woods, fell upon them with wild yells. Their arms were stacked, and the men were away from them preparing supper. In spite of its high military reputation, the corps gave way, and a panic set in. Notwithstanding all the efforts of the officers, including Hooker himself, who did all he could to restore order, it was not till Sickles brought up his corps that the line of the right was re-established. Nightfall did not put an end to the struggle; Jack-

son sent for General A. P. Hill, who had not been engaged; he was ordered to advance to the front, and afford the two divisions which had been disorganized by their own success, an opportunity of reforming. A night attack was delivered in vain about midnight on Berry's division of Sickles' corps.

But a misfortune far more severe than the loss of an action, fell upon the Confederates about 9.30. Jackson rode out in front of his outposts about 100 yards to reconnoitre, and when riding back with his staff they were mistaken by a South Carolina regiment for Federal cavalry, and received a volley. Jackson was wounded twice in the left arm, and once in the right hand. He was lifted from his saddle, and General Hill, who arrived, began to cut the cloth of his jacket, when a number of Federal skirmishers came up and the party had to fly; one of the litter-bearers was shot, and the wounded man fell to the ground, and was for some time in the line of Federals, who did not recognize him till they were repulsed. During this period of anxiety, he was again twice struck by Confederate bullets. As he said, all "his wounds were by his own men." He was carried to the rear, and his arm amputated. He died on May 10 at Guinea's Station, on the Richmond and Fredericksburg Railway, aged thirty-nine years. cheered by the presence of his wife and little child, six months old. After a public funeral in Richmond, he was buried at Lexington in the Valley. When Lee heard that he was in danger, he said, "Give him my love, and tell him that I wrestled in prayer for him last night, as I never prayed, I believe, for myself," and he thus referred to the loss of this remarkable man in general orders:—"The daring, skill, and energy of this great and good soldier, by the decree of an all-wise Providence, are now lost to us. But, while we mourn his death, we feel that his spirit still lives, and will inspire the whole army with his indomitable courage and unshaken confidence in God as our hope and strength."

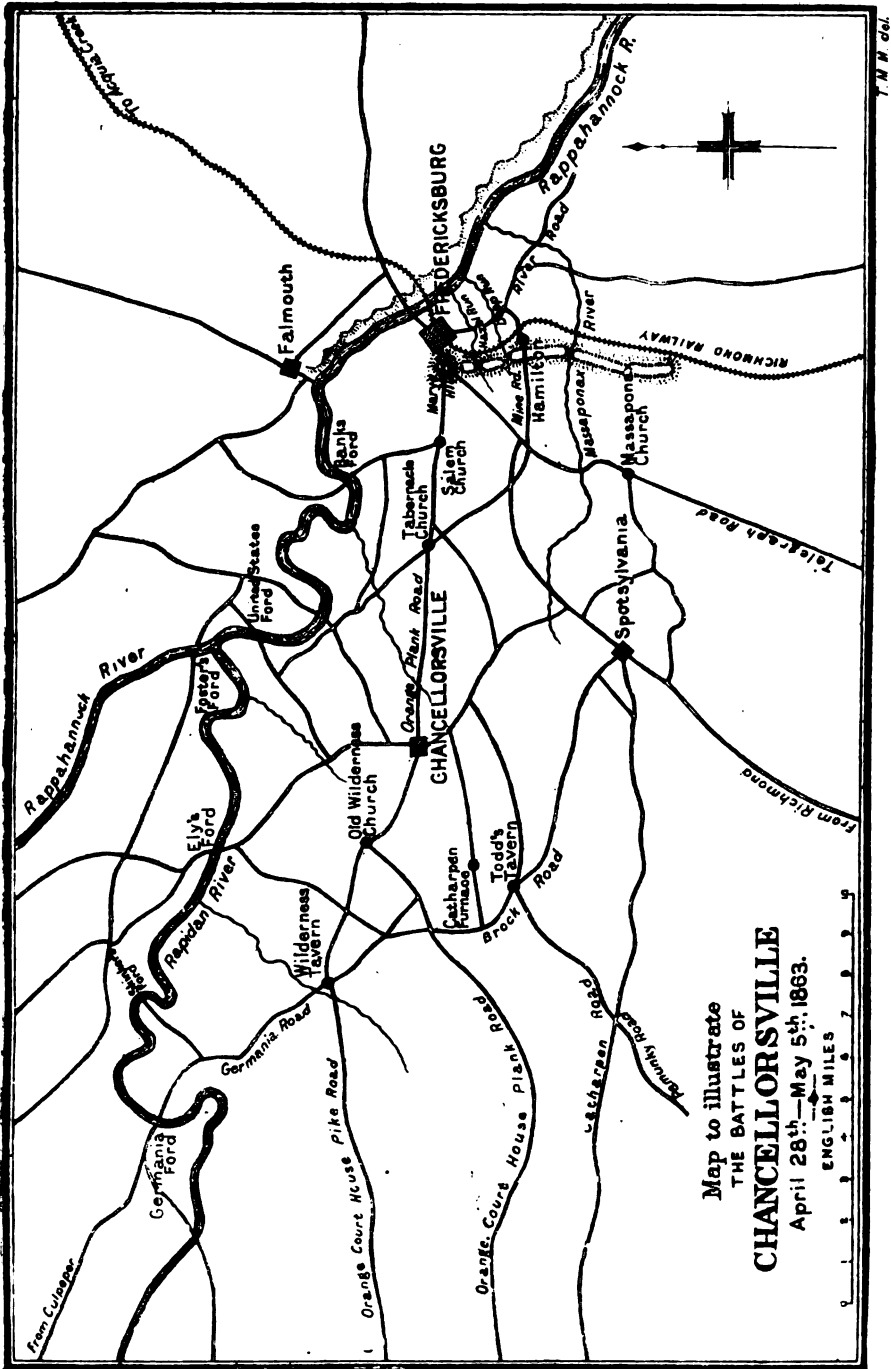
A. P. Hill was wounded as well as Jackson, and as Rhodes had not experience of large commands, Stuart took charge of the Confederate left, and Lee issued orders at Jackson's suggestion for a vigorous attack on the 3rd. The Federal leaders had reconstituted their line in the night, during which they had no rest, and it now was something like U, from the lower part of the Rapidan at Ely's Ford to the front of Chancellorsville, and thence to the United States Ford on the Rappahannock. Stuart was to assail the right and Lee the left. Stuart was to Jackson as a Cavalier to a Round-

head. He was flushed with ambition, and proud to be in charge of an army and not cavalry merely.

The troops were inspired with the utmost confidence by their new leader, who galloped to a fro on a spirited horse with flowing plume and silk sash, like Henry of Navarre at Ivry. He sang as he led his men against the hostile entrenchments, "Old Joe Hooker, will you come out of the Wilderness?" A terrible hand-to-hand struggle ensued, in the course of which Stuart discovered a knoll on his right, on which he placed thirty guns to enfilade the enemy, and by their fire Slocum's line was thrown into confusion. Hooker was leaning against a pillar of the porch of Chancellorsville House, when a cannon ball struck the pillar, throwing it down and so stunning the General that he had to resign his charge to Couch. But Lee's left now touched Stuart's right, and all the Confederates pushed on in a resistless stream, carrying the entrenchments, and pressing with yells the discomfited foe in a disorganized mass back on Chancellorsville. The house took fire, the conflagration spread to the neighbouring wood, and involved the wounded of both sides in an appalling death.

By 10 in the morning Hooker had fallen back to his second line, and Chancellorsville was seized by Lee, who hastened to restore his own line, much shaken by casualties and excitement, and drew up along the Old Turnpike road facing the river, and he intended to follow up his victory and drive the defeated army across or into the river, but he learned that General Sedgwick was in turn threatening his own right.

This leader, on May 2, just as Jackson was wounded, had been ordered to storm the Confederate works at Fredericksburg as soon as possible. On the 3rd he carried the fatal stone wall of the previous battle, and stormed Marye's Hill after a hand-to-hand fight against very inferior numbers; the surviving defenders fell back over the Telegraph Road southwards, and Sedgwick promptly advanced up the turnpike leading from Fredericksburg to Chancellorsville to assail General Lee with 20,000 fresh and victorious troops. The latter made up his mind at once; Hooker was so "whipped" that he could do nothing for some time. But to move against him, while Sedgwick was pressing on his own right flank, would have been to put himself in a very fair way of following Napoleon's fate at Waterloo. Lee therefore sent five brigades to meet Sedgwick; Wilcox with the troops at Banks' Ford moved in the same directions, and troops who were retiring from Fredericksburg halted on the Federal right. After a brisk action from noon till night they



were checked; while Early, recovering himself, dared to march back into the abandoned lines, and by the morning of the 4th he was in Sedgwick's rear and could prevent his crossing back by the road he came. This was a very nice manoeuvre. Lee took personal command the same day against Sedgwick at Salem Church, designing to cut him off from the river, but he held out bravely till nightfall, when he crossed northwards by a pontoon bridge, which had been fortunately laid at Banks' Ford under the fire of the Southern artillery. He went next day to join the main body by United States Ford. Hooker was able to do nothing on the 4th, though it was of the utmost importance that he should relieve the pressure on Sedgwick. On the 5th, Lee returned to Hooker's position, although torrents of rain retarded his march, and especially his artillery, and by the evening his advance posts were skirmishing with the pickets of the enemy. Hooker, seeing the Confederate forces returning to the attack, and the river rapidly swelling in such a manner as threatened the destruction of his bridges, held a council of war which resolved to retreat to the left bank as soon as possible. The bridges by night were covered with hay and branches of trees to deaden the sound of the wheels. The corps of Meade held on to the entrenchments till the others passed, and then Meade sent his men across by brigades in succession, and when the Southern sharpshooters felt their way at daylight towards the Federal position it was found to be entirely deserted. The Federal loss was 11,000, as against 10,000 Confederates killed and wounded. The force of the former was soon afterwards still further reduced by the departure of great numbers of men whose time had expired.

Thus, then, the superior strategy of the Southern generals had again resulted in victory, notwithstanding the vast odds against them.

If any proof were needed, after the campaigns of Napoleon, of the incalculable value of ability, careful training and enthusiasm as against numbers of equal civilization and equal or superior equipment, but badly directed, it is afforded by the campaigns of Lee. But the same lesson is carefully taught by Bacon in his essay on the *True Greatness of Kingdoms and Estates*, a work that used to be seriously studied by every British cadet before the inscrutable plans of the Civil Service Commissioners perverted the education of English gentlemen.

It will be observed that there were three distinct actions of the Federals in the end of April and the beginning of May—Hooker's,

Sedgwick's and Stoneman's, which was further subdivided, as his cavalry pervaded all the theatre between the Rappahannock and the James and went within four miles of Richmond. This separation of force was bad. Had all Hooker's men, save a detachment of a couple of divisions from Falmouth against the Marye Heights, concentrated on a line perpendicular to the Rapidan and south of it, and boldly and in unison gone for the Confederate flank, Lee would assuredly have been forced to retire without fighting or would have been beaten and forced to capitulate. A good chance of ending the war was badly lost. As for the raids, Colonel Lecomte says that, though affording evidence of a great advance in the enterprise and capacity of the officers and men, from a strategical point of view they were "regular humbug." If Hooker's army was aiming at the communications, for Stoneman to aim at the same communications at another point was ridiculous. One successful interposition between the enemy and his base is as good as a series of interpositions. Stoneman's movement was superfluous and wasteful, and the moment Hooker failed he had to beat a rapid retreat.

Why did Hooker stop at Chancellorsville? Did he think he had cut the enemy's line? If so his intelligence department must have been seriously at fault, because Jackson found plenty of space and roads for manœuvring. The Federals were ready for an attack on their front, but not on their right flank. We have already seen that raw troops especially are badly adapted for standing surprises, or making changes of front during an action. Their very numbers confused them, instead of helping them. Jomini says that the point is not how many men are present on the battle-field, but how many are so handled that their presence is felt. How men are used, not how many are available, is the important matter. Field fortifications are frequently snares, just as are permanent fortifications. Men should be taught confidence in their own discipline, in their comrades, in their prowess, in their weapons; they should be true to themselves without the aid of entrenchments and abattis. But the Federal troops had become so accustomed to fight behind shelter skilfully prepared that they distrusted themselves when attacked without these precautions being available.

When soldiers are habituated to field fortifications, these should be constructed on the wings as well as on the front. By this time the Federal staff ought to have known that the enemy was much inclined to flank attacks.

Sedgwick, like Latour in 1796, forgot that a detaining force should not fight. His victory at Fredericksburg was not necessary, and resulted in the strategical disadvantage that Barksdale and Early reinforced Lee. To weaken Lee as much as possible should have been the object.

Even courage, the first attribute of a soldier, is no use against skill; Hooker was as calm and brave in action as any hero of history, and he had more than the national self-assertion and complacency. He had taken measures to check undue or ungenerous criticism by journalists, and he published on May 8th an order of the day which for cool audacity is worthy to be ranked with those celebrated despatches of Napoleon which caused the pen to drop from the fingers of his amazed secretary, Bourrienne. One would imagine that his troops had returned from a glorious triumph. He expressed his hearty congratulations on their conduct. He felicitated them on their wisdom, devotion, and loyalty, and declared that they deserved the utmost credit for retiring across the river so ably; but the following extracts are almost incredible:—"The events of last week may *swell with pride* the heart of every officer and soldier of this army. We have added *new lustre* to its former renown. We have made long marches, crossed rivers, surprised the enemy in his entrenchments, and, wherever we have fought, have inflicted heavier blows than we have received."

Both sides took up their old positions on May 8th, and President Lincoln and General Halleck soon visited the Army of the Potomac, where they found that Hooker's order was more eloquent than accurate, and on the return to Washington admitted that his movement, though not a disaster, was a failure. They wished to spare themselves and their political friend, but the public were not long deceived, and a rigorous enforcement of the conscription added to their unpopularity. This was so much disliked that fierce riots broke out in New York in July, many negroes were murdered—a curious satire on the supposed zeal for the poor blacks—and much property was destroyed; but military force was employed, and the city was treated almost as a conquered town. Before the end of the year, the President's faction had the mortification of learning from the Supreme Court that the conscription was quite unconstitutional.

The negroes in the rebellious States had been emancipated January 1st, by a stretch of the President's powers which offended many of the Northern citizens and led to protests from the English and French ministries. Regiments of negroes were now embodied; they

fought well in many cases, but their position was anomalous and led many to foresee how dangerous the racial question must ultimately become. They were manifestly of inferior intelligence; better for a *mêlée* than for a *manœuvre*. They were not regarded with favour by their white comrades. Equality is well enough on paper; it is a mere phrase in reality, and nowhere a vainer or emptier sound than in the United States. The unfortunate freedmen escaping from their old mode of life became involved in most deplorable conditions, which will be illustrated when we deal with Sherman in Georgia.

The evils of civil war were now severely felt all over the States; commerce was paralyzed, the currency was depreciated to an alarming extent, and a considerable section on both sides began to agitate for peace, but the events of July confirmed the North in their resolve to crush the Confederacy. Notwithstanding the elation caused by the victory at Chancellorsville, the Southern army was with difficulty recruited. The military population of the South was becoming exhausted. On July 15 President Davis issued a proclamation conscribing all white men between the ages of 18 and 45. But desertion was common among soldiers who were naturally solicitous about the state of their families; absenteeism without leave was too frequent, and the system of purchasing substitutes prevailed to a considerable extent. To cure these evils President Davis issued this appeal. "I conjure my countrywomen—the wives, mothers, sisters and daughters of the Confederacy—to use their all-powerful influence in aid of this call; to add one crowning sacrifice to that which their patriotism has so freely and constantly afforded on their country's altar; and to take care that none who owe service in the field shall be sheltered at home from the disgrace of having deserted their duty to their families, to their country, and to their God." It is only right to say that in the Confederate States the age of chivalry in its highest ideal was revived. The ladies were worthy of their knights; nor does any history afford nobler examples of patient endurance and heroic self-sacrifice on the part of any generation of women, under so long continued a strain of the severest character.

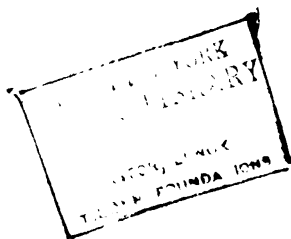
For the remainder of May the main bodies on both sides were watching each other, while their cavalry kept the country alive by incursions in all directions. In these a new general, Judson Kilpatrick, began to acquire distinction. He was a man of inordinate vanity, extraordinary activity, readiness of resource, and absolute

recklessness. He had that vein of romance and eccentricity which appears characteristic of all born leaders of horse. Against his daring enterprise must be set his notorious immoralities and rapacity. He winked at pillage, and his men were an awful scourge to the territory in which they operated. Surely the so-called progress of humanity is much of a delusion. Scratch an American trooper, and you will find a dragoon of Wallenstein's era. Still, Kilpatrick did good service; and though his escapades were numerous and scandalous, his merits as a soldier were too conspicuous to be ignored. His superiors winked at his freaks, in consideration of the fact that he was quite capable, in a night attack, as General Cox says, "of mounting bare backed the first animal, horse or mule, that came to hand, and charging in his shirt at the head of his troops with a dare-devil recklessness that dismayed his opponents and imparted his own daring to his men." At this period he took up quarters at Yorktown; he harassed the banks of the lower Rappahannock, and with the aid of gun-boats he tried to keep touch with his friends at Falmouth. On the 4th June Hooker made a reconnaissance in the direction of Deep Run, where a combat took place which convinced him that the enemy was ready at all points. He used war balloons very freely, and his information by their aid confirmed this view.

This is not the place for a discussion as to the value or otherwise of cavalry in war, but those who hold that in the future wars will be opened by this arm on a grand scale, will find some corroboration of their theory in what occurred at the opening of the Gettysburg campaign. Before moving northwards from Fredericksburg, Lee masked his movement by a cavalry combination of the first order. A most brilliant review of Confederate cavalry was held at Culpeper, June 8th, before Lee himself. Stuart and his staff led 8,000 troopers past his chief at a gallop, and then engaged in a very smart sham fight with his own horse artillery. This perplexed the Federals, who sent next day Gregg and Buford, also with about 8,000 cavalry, across the Rappahannock. Buford surprised, near Beverley Ford, one of Stuart's brigades and drove it back to Fleetwood Hill, and while these were thus engaged Gregg crossed at Kelly's Ford, and came directly on the enemy's rear and attacked the hill. Stuart now returned, fell upon Gregg and captured his guns. Another charge by Gregg was repulsed by the Confederate artillery on the hill, and charged by the Georgian officer P. Young, whose men on this occasion used the sabre—as a rule these soldiers relied on the carbine or pistol—and



GENERAL JUDSON KILPATRICK.



drove the Federal left across the river. On their own left the Confederates were rallied by W. H. Lee, son of the commander-in-chief, and drove back the enemy, who re-crossed by night. This affair established the reputation of the Federal cavalry; they very nearly surprised Stuart, they fought hand to hand with determination against the boldest cavaliers of the South, and Gregg's tactics were by the admission of hostile critics very fine, his combination of front and flank movements being very well timed.

But the satisfaction which the army at Falmouth derived from these gratifying circumstances was soon dissipated by another very decisive and commanding manœuvre of the enemy. Hooker found his right flank completely turned, and that it was necessary for him either to leave his lines and turn northwards or advance boldly on Richmond, which Lee had left at the mercy of the army of the Potomac with a garrison only fit to resist a raid, while he entered the valley of the Shenandoah and went straight for Maryland. Was it not rather folly than strategy to move into the enemy's territory while exposing his own communications and risking his capital? To this there could only be an answer in the affirmative, were it not that history proves that a bold assumption of the initiative generally results in paralyzing the plans of the opponent. The Archduke Charles, in 1796, declared that provided he was able to drive Jourdan to the Rhine Moreau might advance to Vienna if he pleased, while, on the other hand, in 1814, after Arcis, Napoleon dared to abandon the road to Paris to the Allies, while he advanced against their fortifications. In 1849 Radetsky moved on Novara, indifferent to the security of his communications. Moreover, Lee knew thoroughly the temper and political exigencies of the northern leaders. He thought they would not try any operations that could expose Washington, and he rightly believed that the generals would be obliged to abandon their designs in Virginia, and look promptly after their own territory, as a successful invasion of Pennsylvania by Lee, followed by the capture of Harrisburg or Baltimore, would certainly induce the commercial classes of the North to clamour for peace. As it was, too many were inclined to "let the Union slide." But another reason might well induce the Confederates to change the theatre of war. Virginia was exhausted; the district north of the Potomac was fresh, it had not been ravaged. They had spared Maryland in 1862, but the enemy had not followed their example, and Milroy, a failure in the field, was now at Winchester and ruled the Valley with a rod of iron. The question of supply was becom-

ing serious in the impoverished state of the South. It was time to make war support war ; and when General Lee sent in May for stores to Richmond, the commissary-general is said to have endorsed upon the paper, " If he wishes rations, let him seek them in Pennsylvania." Before moving north, Lee took advantage of the lull in the strife to reorganize his army, which was now in a high state of efficiency, and more numerous than it had been since May 1862 ; a large proportion of the men were, moreover, veterans who could go anywhere and do anything. It consisted of 68,000 infantry in three corps, each of three divisions, under Longstreet, Ewell, and A. P. Hill ; 10,000 cavalry under Stuart ; and 115 guns under Pendleton.

But the campaign of Gettysburg must be reserved for another number.



Kiel.



SINCE its entry into the German Empire and its selection as chief naval station, Kiel has undergone, very naturally, some considerable changes, and has become one of the most important towns on the Baltic.

The town now possesses over 60,000 inhabitants, and lies on the south-west point of the harbour; many of the streets are somewhat narrow but picturesque, the old houses, with their gable ends, forming a pleasing contrast to the ugly modern four-storied buildings.

The Schloss, standing on the south side of the Schloss Garden, is by no means a picturesque building, reminding one very much of a prison. The interior, however, is very different, as in the hands of Prince Henry the palace has been altered, richly decorated, and furnished.

On the north side of the Schloss Garden is the handsome new University building, with over 600 students, as well as the University Library, containing a fine collection of some 200,000 books and manuscripts, whilst close by are the Chemical Laboratory, the Physiological Institute, and the Pathological Institute.

Extending from the Schloss Garden to the Hotel Bellevue is the beautiful Düsternbrooker Road, with its fine avenue of trees, and villas, and its extensive beech wood.

Following this road, and passing the official residence of Vice-Admiral Knorr, we reach the well-known Folker's Garden by the waterside, where the concerts on fine summer days are largely patronized by the Kiel people and the officers of the German navy. On "Italian nights" the grounds are beautifully illuminated and fireworks let off.

Close by is the large imposing building of the Naval Academy, only recently opened, under the director, Captain Schering, I.N.,

and in front of the grounds lies the torpedo harbour, sheltering the 1st division. On the north side of the Academy stands the Bade-Anstalt, a much frequented bathing-place during the summer months; but it is much to be regretted that the water here is not always clear.

The Düsternbrooker Road skirts the harbour, and continuing our walk, the Hotel Bellevue, with its fine panorama, is reached. It is truly charming to sit here in the garden on a fine sunny day, listening to the strains of the band, and gazing at the beautiful scene spread out; fishing boats seeking their "ground," with, perhaps, a division of torpedo-boats practising on the western side of the harbour, whilst out there comes in view the mail steamer from Korsör, and now and then a large flock of wild ducks pass overhead, seeking, like the fishermen, their "ground."

With the exception of the Düsternbrooker Road and the Kleine Kiel, Kiel itself is somewhat unattractive; in fact, it has even been really called by strangers a "dirty hole." Be that as it may, there is a compensation in its fine harbour and beautiful surroundings.

The country round abounds in lakes, being called the "Holsteiner Switzerland," attracting many visitors with its varied beauties of lake and wood.

The town holds an important commercial position, forming as it does the natural link between the continent and the Danish islands, &c., and a high educational position by virtue of its University, besides being the head-quarters of the German navy.

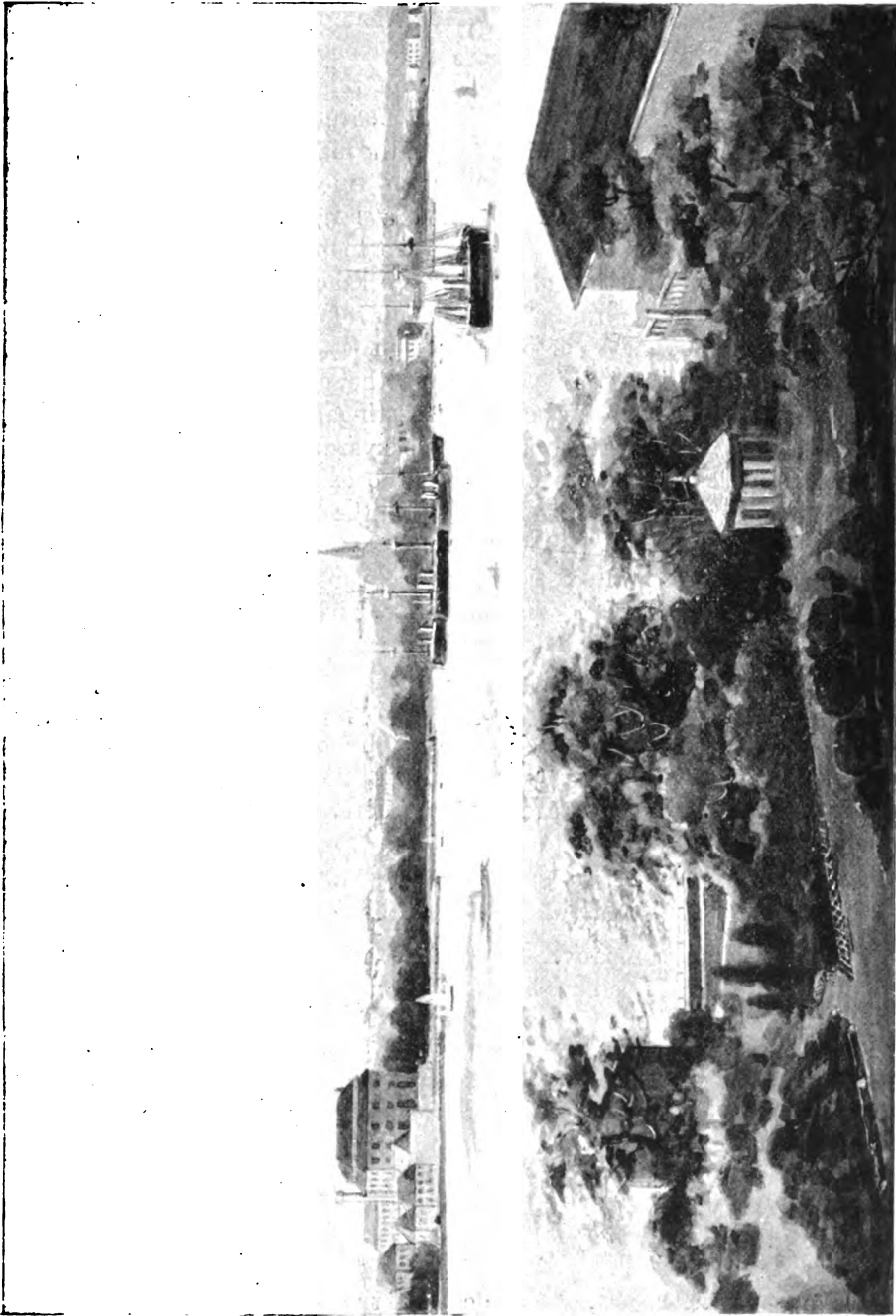
Officers, sailors, and soldiers, and students constitute the typical "life of the town."

Kiel possesses six churches, six newspapers, six breweries, and three barracks.

The Imperial Dockyard.

It was at first contemplated to construct this dockyard on the west side of Friedrichsort, but eventually the present site was chosen between Wilhelminenhöhe and the fishing village of Ellerbeck.

The yard covers the whole of the ground between these two points, and possesses the advantage of being close to Kiel, and a loop line brings it into connection with the railway system. The northern portion is occupied by the equipment and construction docks (the former 284 metres in length, 215 in breadth, with a depth of 9 metres), and they were constructed with some difficulty,



KIEL HARBOUR AND THE SCHLOSS, FROM WILHELMSHÖHE.

owing to the nature of the soil and the depth (44 feet) to which it was found necessary to excavate. Abutting upon them are the dry docks. The length of the quays is about 1,100 metres. On the north and east side are the depôts of the different vessels stationed in Kiel, whilst the timber-yard, &c., are on the east side. On the west side are to be found the forges, the plating, the machinery, the boiler, and the torpedo departments. On the outer west side there has recently been constructed a large torpedo harbour. Several improvements and extensions are to be carried out here, as many of the existing offices and workshops have been found inadequate to the growing requirements of the German navy. A sum of 456,000 marks is to be spent in the enlargement of the brass-foundry, so that it may answer the purposes of an iron-foundry in addition. Hitherto the castings required have been brought from the Wilhelmshaven dockyard. Another sum of 491,600 marks is to be expended in the extension of the boiler department, whilst the forge and locksmiths departments will be enlarged at a cost of 176,400 marks.

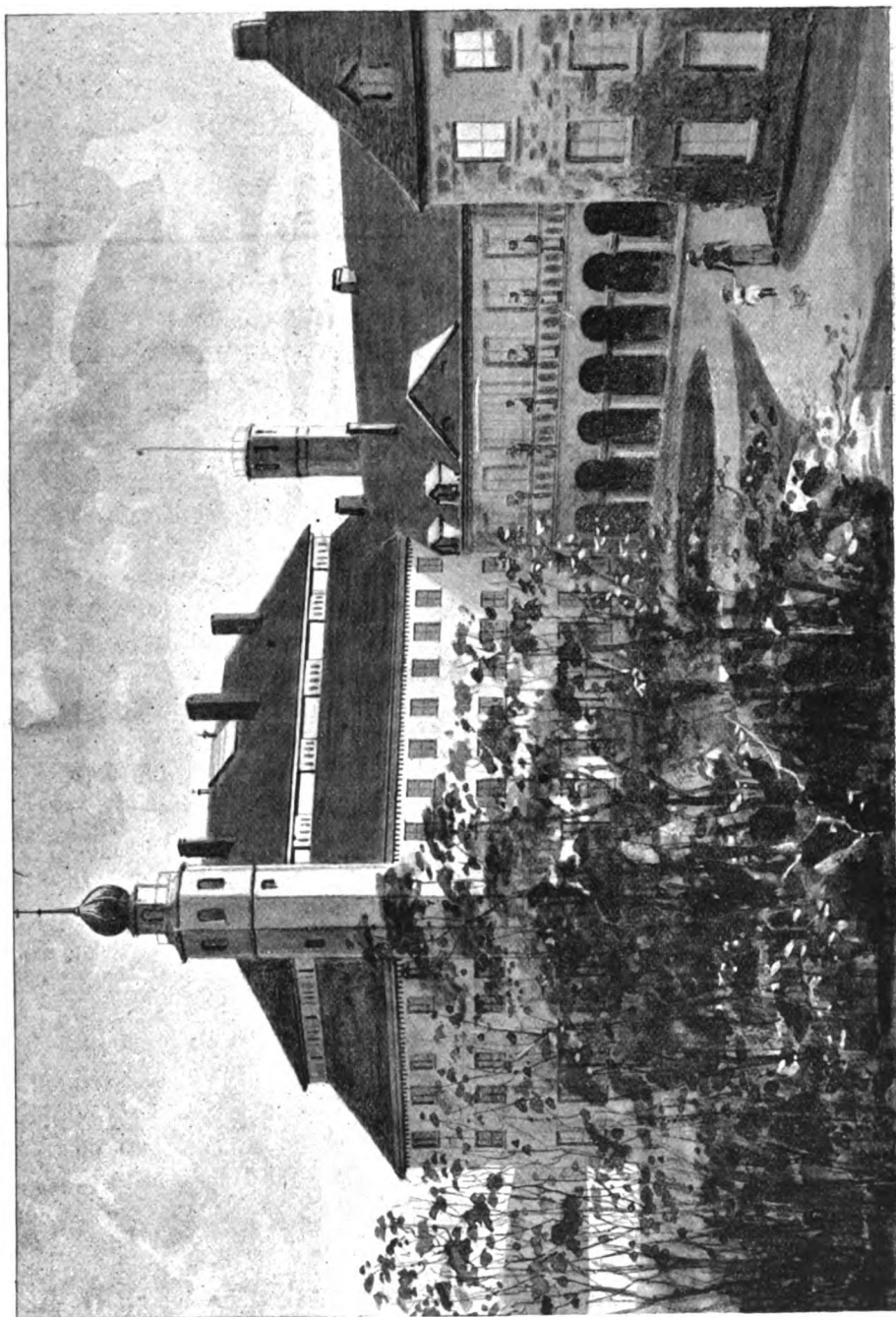
Along the east wall of the dockyard runs the fine new road leading to Ellerbeck and Neumühlen. The war vessels of the German navy built in this dockyard are: the ironclad turret-ship *Friederich der Grosse*, the barbette-ships *Bayern*, *Baden*, and the corvette *Alexandrine*. It was, by the way, a curious coincidence that both the vessels which came to grief in Samoa (the gun-boat *Eber* and the cruiser *Adler*) were built in this dockyard. Between 4,000 and 5,000 workmen are employed here.

Germania Shipbuilding Yard.

This yard lies on the east side of the inner harbour, and is in the hands of a company. Since its construction in 1867, over eighty large iron ships have been built here for Germany, Denmark, Russia, &c. The following vessels of the German Navy were also constructed in this yard—the cruiser *Bismarck*, the corvette *Princess Wilhelm*, the despatch boats *Greif* and *Blitz*, the armoured gun-boat *Siegfried*, the latter a new type of coast-defence vessel. One of the new ironclads and the corvette *H* are now being built by this company. About 800 workmen are employed here.

Howald's Shipbuilding Yard

lies in Neudietrichsdorf, at the mouth of the river Schwentine, and close to the well-known Baltic Steam and Water Mills. The



THE SCHLOSS (RESIDENCE OF PRINCE HENRY).

village is for the most part composed of well-planned houses for the workmen and officials, and here night-work is carried on by the electric light. It was lately formed into a company, with one of the Howalds as chief director, and a few weeks back he celebrated the launching of his two hundredth ship. Over 1,000 workmen are employed here.

Kiel Harbour and its Fortifications.

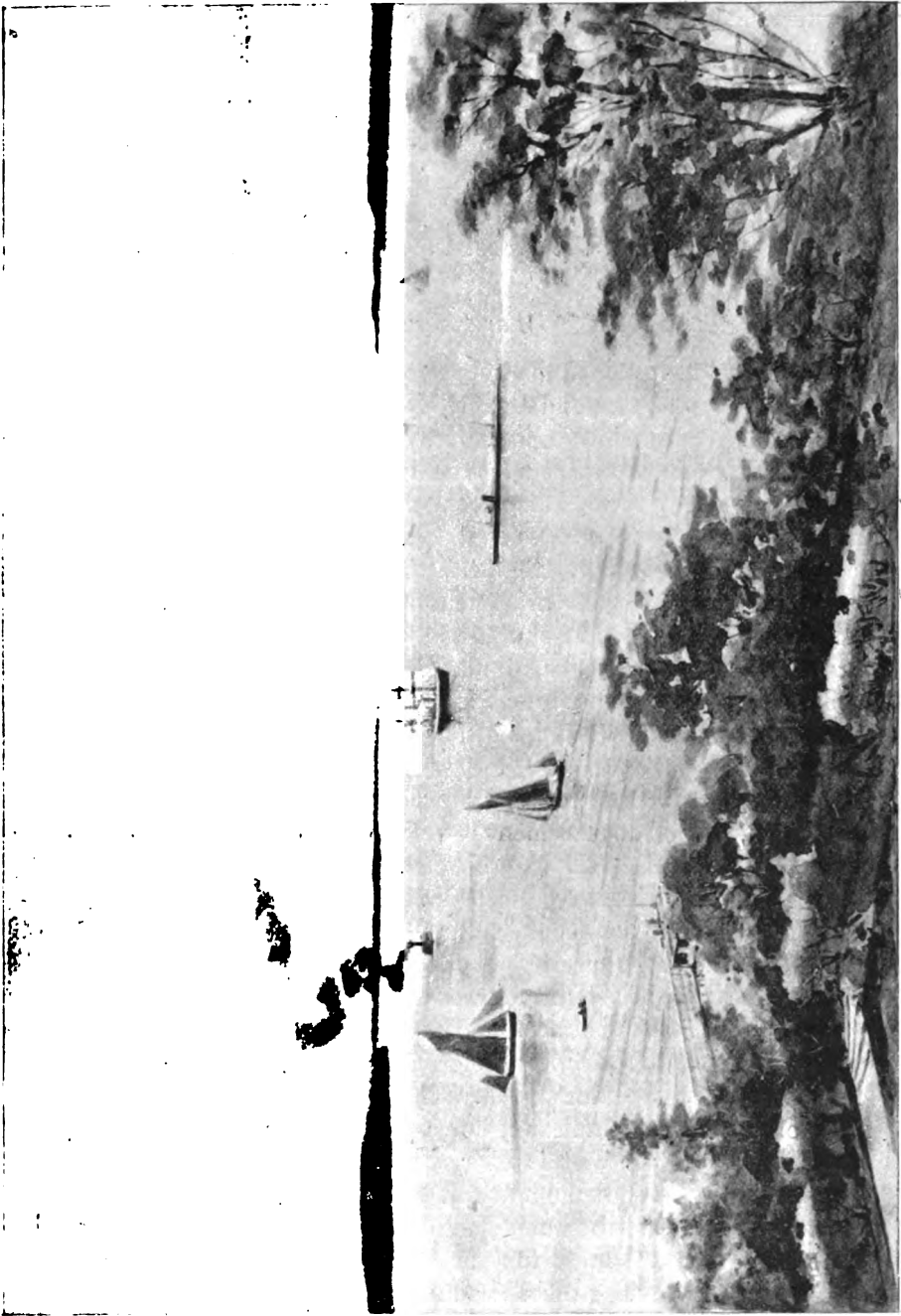
Taking a steamer to Friedrichsort, landing is effected by the fort, which is large and well-constructed, and directly commands the narrow entrance to the harbour. Walking along the sea-terrace, we come in front of the fortifications. On the terrace itself is the saluting battery of eight small guns, and behind, at a lower level, run a road and a broad water ditch, overhanging which is the fort itself, armed with eighteen heavy guns of about 35 tons and more. The other sides of this formidable position are defended by guns of smaller calibre.

Behind the fort, or rather on the south side, are the naval yard, the extensive workshops for the construction of torpedoes, &c., the large well-arranged barracks, and the hospital. Friedrichsort is not used at all as a place of residence, except by the various officials and officers stationed there.

In front of the fort stands the lighthouse, connected with the shore by a narrow sandbank, upon which considerable labour is being expended in improving the foundations. The stones required for the work are boulders "fished up" out of the sea, and inquiring of a fisherman what sort of fish he had been catching, the reply is generally "stone fish." Clinging to these "stone fish" when brought in, are beautiful sea-weeds and plants, a welcome find to the marine botanist.

If we now continue our walk along the sea-terrace northwards, we shortly reach the Brauner-Berg, upon which has been constructed the Falkenstein Fort. This fort stands much higher than that of Friedrichsort, and is armed with heavy Krupp guns. It is surrounded by a dry ditch and walled esplanade. These two forts, Friedrichsort and Falkenstein, form the defence on the west side of the harbour.

Taking the steamer from Friedrichsort to Laboe, we reach those on the east side. Walking southwards by the coast, Laboe battery of a few guns is first passed, whilst farther back, on the highest point, lies Fort Stosch with its heavy guns. These two face Fort Falkenstein. A charming walk through the beech-woods brings



KIEL HARBOUR, FROM HOTEL BELLEVUE.

us to the large fort and ordnance-shed, Korügen. Friedrichsort fortifications do not rise much above the water-level; Korügen, however, stands on an altogether higher level. In this fort are mounted Krupp guns of 28 tons.

A little farther south is the large fort on the Heid Berg, below which, on the shore, is the Möltenort battery. At two to three miles distance inland from this point, at Röbsdorf, a large fortress is being constructed, standing on an elevated plateau in a commanding position over the Probstei district.

War Ships.

The ironclads stationed in Kiel are the two central-battery ships *Kaiser* and *Deutschland*, and the five barbette ships *Sachsen*, *Württemberg*, *Oldenburg*, *Bayern*, and *Baden*.

The *Kaiser* and *Deutschland* were both built in London fifteen years ago. They have a displacement of 7,676 tons, their indicated horse-power is 8,000, speed 14 knots, and crew 638. The cost, over £400,000 each. The belt armour is 10 in. in the battery, 18 in. elsewhere. Their armament consists of 8 26-cm. 22-ton breech-loading guns, 1 21-cm. 15-ton breech-loading gun, 6 15-cm. 4-ton breech-loading guns, 6 machine guns, 4 light guns, and 5 tubes for discharging Whitehead torpedoes. At present they are the two most formidable ships of the German navy.

The *Sachsen*, *Württemberg*, *Bayern*, *Baden*, the two former built at the Vulcan works, Stettin, the two latter in the Imperial Dockyard, Kiel, have a displacement of 7,400 tons, and indicated horse-power 5,600, speed 14 knots, crew 356. Each cost over £400,000. Belt armour 16 in., on barbette 10 in. Their armament consists of 6 26-cm. 18-ton breech-loading Krupp guns, 6 machine and 4 light guns. No more ships are to be built of this type.

The *Oldenburg* was built four or five years ago at the Vulcan works, and is the newest armoured vessel of the German fleet, with the exception of the *Siegfried*, referred to above. This vessel will be stationed in the North Sea. The *Oldenburg* has a displacement of 5,200 tons, indicated horse-power 3,900, speed 14 knots, and crew 356. The cost is over £230,000. Belt armour 13 in. (compound), battery armour 8 in. (compound). The armament of the *Oldenburg* consists of 8 long 24-cm. 18-ton breech-loading Krupp guns, 4 15-cm. 4-ton breech-loading guns, 6 machine and 4 light guns, and 4 tubes for discharging Whitehead torpedoes. Length 246 feet, beam 59 feet. She is constructed of steel.



THE FRIEDRICHSORT LIGHT.

The unarmoured cruisers stationed here and on foreign service are the *Nautilus*, *Münze*, *Schwalbe*, *Sperber*. The *Nautilus* and *Münze* have been pronounced unfit for further service; the latter returned home on the 17th October 1889. The *Schwalbe* and *Sperber* are two new vessels, the former built in 1887 and the latter in 1888. The *Schwalbe* has a displacement of 1,120 tons, and an indicated horse-power of 1,500, speed $13\frac{1}{2}$ knots, crew 114. Armament, 8 $10\frac{1}{2}$ -cm. $22\frac{1}{2}$ -cwt. breech-loading guns, and 4 machine guns. The *Sperber*, displacement is 1,300 tons, the indicated horse-power 1,500, and speed 13 knots. The armament is the same as the *Schwalbe*.

The corvettes stationed at Kiel are the *Carola* and the *Olga*. They have a displacement of 2,169 tons, and an indicated horse-power of 2,100, speed 14 knots, crew 267. They have cost a little over £100,000 each. They are armed with 8 15-cm. $3\frac{1}{2}$ -ton breech-loading guns, 2 8·7-cm. 9 cwt. breech-loading guns, 4 machine guns, and 1 light gun.

The cruisers stationed here are the *Moltke*, *Stein*, and *Gneisenau*. They have a displacement of 2,856 tons, and an indicated horse-power of 2,500, speed 13 knots, crew 403. The cost is from £130,000 to £150,000 each. They are armed with 16 15-cm. $3\frac{1}{2}$ -ton breech-loading guns, 6 machine, and 2 light guns.

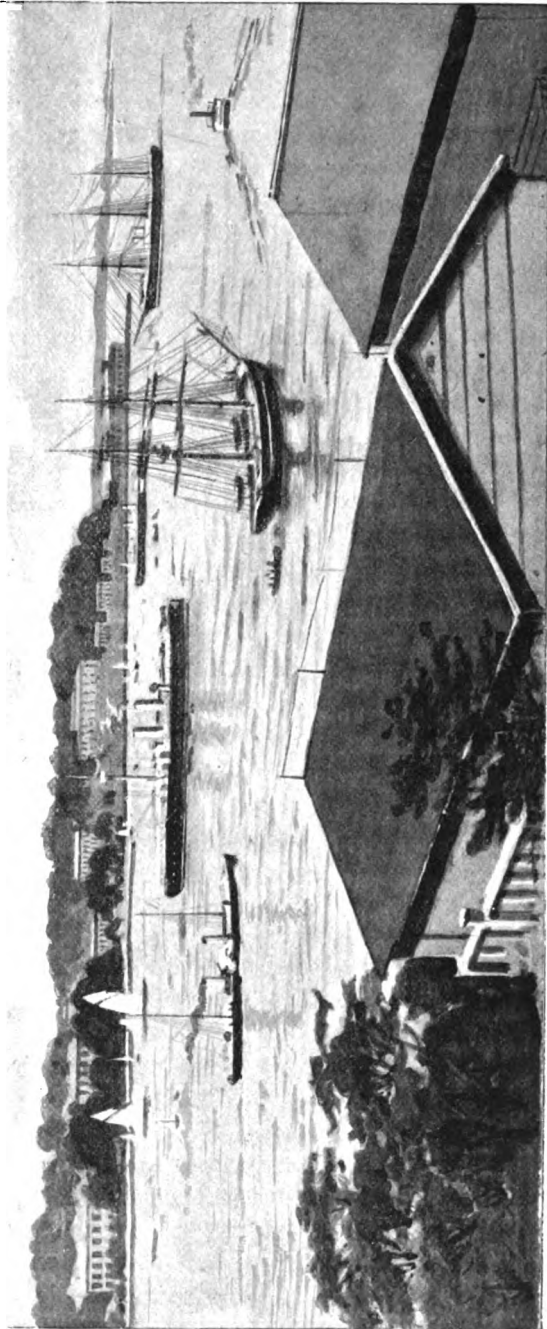
The despatch vessels stationed here are the *Blitz*, *Zieten*, *Grille*, and the armoured gun-boats, the *Arminius*, built 1864, the *Basilisk*, 1878, the *Biene*, 1876, the *Crocodill*, 1879, the *Natter*, 1880, and *Hummel*, 1881. These latter five vessels have a displacement of 1,100 tons, speed 9 knots, and crew 76. They cost from £52,000 to £62,000 each. Their armament consists of 1 $30\frac{1}{2}$ -cm. 35-ton breech-loading guns, 2 machine guns, and they have a tube for discharging Whitehead torpedoes.

Kiel possesses two fine divisions of torpedo-boats, each division consisting of six boats of about 85 tons displacement, and one large division boat of 250 to 350 tons displacement. The former attain a speed of from 19 to 21 knots, the latter 21 to 23 knots.

The General Training Squadron attached here consists of the *Blücher*, *Niobe*, *Nixe*, *Louise*, *Ariadne*, *Rover*, and *Musquito*.

Germany is specially strong in torpedo boats, having at the present time about 90, the majority being about 85 tons displacement, whilst 6 or 7 have a displacement of 250 tons and over. They are stationed at Kiel, Wilhelmshaven, Dantzig, &c.

It will be gathered from the foregoing that at the present time,



RETURN OF THE "OLGA" FROM SAMOA.

Germany, as far as her navy is concerned, is not particularly strong in the Baltic, and a formidable hostile fleet would no doubt compel her to retire within her fortified ports.

However, the position of Kiel is undoubtedly a very strong one; it is, in fact, declared impregnable, but on what terms its forts, aided by its torpedo boats, would compete with a heavily-armoured squadron, it is impossible to say.

In the next decade, no doubt, Germany's naval position will be considerably strengthened by the line of communication connecting the North and Baltic Seas, the Nord-Ostsee Canal.

Armoured gunboats will be constructed and stationed at the mouth of the river Elbe; four ironclads of a new type will be completed and added to her navy, whilst the cruiser and torpedo fleets will also be increased in number and power to a considerable extent. But even with these new ships, Germany's position will by no means be a very formidable one according to our ideas, as it is self-evident she can place but little reliance upon her obsolete ironclads and cruisers. At the present time she has a very small number of new vessels. Since 1884, the year of the latest addition to the ironclads (the *Oldenburg*), the principal vessels built are the corvettes *Alexandrine*, *Arcona*, *Princess Wilhelm*, and *Irene*; the unarmoured cruisers, *Schwalbe* and *Sperber*, the torpedo sloop *Greif* and despatch vessel *Wacht*, and finally, the armoured new-type gun-boat *Siegfried*.

No doubt, in the near future, a ship canal will be constructed connecting the Elbe with Wilhelmshaven, the obvious advantage of such a canal being undisputed. The Baltic and North Sea positions would then be in accord, and would be able to support one another in time of need. By that time Germany will possibly have a fleet in accordance with the requirements of the situation.

At the present time the navy is undoubtedly a weak one. Well officered and manned, but weak in ships, its only strong point is its torpedo department. The position is purely a defensive one, as far as her navy is concerned, but looked at in this light alone, her ships are inadequate and unfit for a great strain in time of war. She requires stronger ironclads, with efficient armour and heavier guns. The heaviest guns are the 35-ton guns carried by the 9-knot armoured gun-boats *Basilisk*, &c. The *Kaiser* and *Deutschland's* heaviest guns are of 22 tons, 18 tons being principally the calibre of the remainder.

German Ships building and to be built.

Four armoured corvettes, 4 belted cruisers, 4 gun-boats, 4 first-class ironclads, 2 torpedo division-boats, 2 torpedo-sloops, 1 despatch vessel.

With regard to contemplated improvements in Kiel harbour, may be mentioned a naval wharf and a torpedo harbour on the west side of Friedrichsort and a railway from Friedrichsort to Holtenau, as well as a railway from Holtenau, at the mouth of the Nord-Ostsee canal, through Wik, to Kiel.

However, considerable opposition will no doubt be offered to the two railway schemes, shutting out, as they would, much valuable private property from the harbour.



Six Months with a Russian Family.

By CAPTAIN W. CYPRIAN BRIDGE.

II.



THE inhabitants of St. Petersburg are very proud of their fire brigade, which is certainly very smart and efficient. The city is divided into thirteen fire districts, each district having its fire brigade depôt, where a large number of engines with their crews are kept, whilst above the building rises a very lofty tower having command of view over the city far and wide, and near whose summit a watchman is always on the look out. The latter on detecting a fire immediately hoists a signal, showing not only the district in which it is situate, but also its dimensions, upon which latter depends the number of engines, if any, which should repair to the spot from neighbouring depôts. An average of two or three fires take place every twenty-four hours, and are for the most part caused by the overheating of stoves, especially in the outlying quarters, where very many of the houses are yet of wood, although no more such are allowed to be built. In the event of a fire being extinguished by the occupants of a house without the assistance of the fire brigade, the owner receives the sum of 30 roubles.

On New Year's Day there arrived from the country on a visit to Dmitri his greatest friend. This was a remarkable man. His wife died some eight years ago, whereupon, abandoning his city life, his circle of friends, and even his social status, he betook himself to the depths of the country to live upon a small holding and there has ever since devoted his time and his slender means to the voluntary task of educating the peasants. Books, stationery, &c., he supplies gratis to his pupils; aye, even bestows upon them boots and garments to enable them to come to him, and feeding them when they are hungry. At first the peasants fought shy of him, but gradually as they came to realise his kindness of heart and sympathy towards them, he became their idol,

until now lads come from a great distance to receive instruction from him. But the Government could not believe in such disinterested philanthropy, and decided that he must be some sort of Nihilist, so one day sent and seized all his books and marched him off to Novgorod. There he was kept in confinement for weeks; but finally, as naught could be established against him, was liberated. On the day of his release the peasantry of his village came to the prison with carts and with horses, and amidst loud rejoicings conveyed him home. The Government is still suspicious of him, and he still receives occasional visits from the police. This simple man's one indulgence in life is to spend one week every year amongst his old friends in St. Petersburg. On this occasion of my meeting him, he arrived at a time when a large party had assembled at Dmitri's quarter by invitation. He came up by the back stairs, and his approach was heralded by an unmistakable odour of hay and old clothes. As the venerable bald-headed man entered, his long white beard almost concealing his ample waistcoat of undressed sheepskin, every one there who knew him, including well-born and distinguished persons, rose and fervently kissed him. For kind-hearted benevolence and philanthropy the "Russian bears," as we call them, have the greatest respect, and indeed these are qualities possessed by many of them. A Russian seldom turns a deaf ear to a beggar, and the capital abounds with asylums, orphanages, hospitals, and such like institutions. Well, to return to the country schoolmaster. The day following his arrival, Dmitri said to him that he really must have a new coat, the one he had at present being far too shabby even for the country. After some discussion Petrovich was induced to reluctantly consent to purchase for himself a new garment, so we straightway accompanied him to the tailor's. But when he arrived at the door he stopped and said, "Look here; this coat I am wearing will easily hold out for another year, and I can buy such a lot of things for my people with the money that the new one would have cost;" and thereupon he betook himself to the market, and there purchased a prodigious number of toys and many packets of sugar and tea. Finally, when he left the capital he was enveloped in huge bundles, made up of presents for his poor friends, whilst a very small napless carpet bag contained the whole of his own belongings.

It is time to say something concerning the antecedents of my friend Dmitri Dmitriévich, with whom I passed so agreeable a time. More than a hundred and sixty years ago there was

bestowed upon his then living ancestor the rank of *dtoryanin*, or gentleman, in recognition, as the huge document conferring this honour explains, "of his services at the Court." His father occupied an important post in the Academy of Arts, and lived in a handsome government quarter, and all was pleasant until one day he unexpectedly died, leaving for division amongst a family of four children little else but the furniture of the quarter, which they had now to evacuate, and his wearing apparel. The education of the children, adults as they now were, had been neglected. But Dmitri had the sense to know that education was essential to a man of his birth, and so, at the advanced age of thirty-two, betook himself to an university, and there went through a course which won for him diplomas of a musician and artist. Then during the space of several years of semi-starvation—in which he drank milk as being cheaper than tea, and ate the commonest of black bread, and yet would never accept the smallest hospitality from any of his employers, under plea that he had just breakfasted or dined (albeit he would have given his soul for a good meal), and was wont out of swagger to purchase the most expensive English lead pencils for professional use—he occupied himself in imparting instruction in the fine arts. Dmitri's friends by no means deserted him in his poverty, and he received numerous invitations to entertainments of all sorts. These, however, he was unfortunately forced to decline for a very embarrassing reason. In the division of the paternal property there had fallen to his share amongst other trifles a very handsome frock coat, which is the article of evening wear in Russian middle-class society, but no corresponding continuations for the nether limbs, so poor Dmitri, not daring to devote any of his scanty means to the purchase of a pair in keeping with the coat, was forced to bide at home. And so it happened that much of the time which would otherwise have been passed at musical *soirées* and in card-playing was devoted to the study of finance, until at last, having mastered this intricate subject, Dmitri ventured on the Bourse with a small sum of money saved out of his scanty earnings, and made some very successful investments. And one success led to another, thanks to his sound knowledge of the then financial situation, until after a short time he became rich, employed brokers, and was frequently consulted by persons of the highest rank and position as to the investment of their money. Like many of his countrymen, Dmitri was exceedingly fond of music, but of course in his drawing-master days was

unable to afford to pay for seats in concert-halls and such-like places. But one day he chanced to learn that above the central chandelier in the Italian opera-house was a small trap-door, used in connection with the lighting arrangements. "I lost no time," said he, "in interviewing the chief gasman, and for a very trifling sum obtained his permission to go whenever I liked, and sit above the trap. And there of an evening I frequently used to be. It was terribly hot and dusty up there; but that was nothing, so that I heard enjoyable music." Neither doctors, school-masters, nor ordinary priests are accepted in St. Petersburg society, these being professions which no one having the rank of *dvoryanin* would embrace. As regards the clergy, however, it must be remarked that those of the large towns are quite a different class to those of the villages, these latter living the life of peasants, digging and delving, being grossly ignorant and superstitious, and scarcely able to read or write. The first have learning and social influence, the latter have neither. One day Dmitri's wife was talking to a village priest, a frowzy-headed peasant with low projecting forehead, and dull, expressionless eyes.

"And what do you do to pass your time?" said she, glancing round the cheerless wooden hut, almost empty, save for a few rough tools and the commonest utensils. "Do you ever read?"

"Oh, yes," returned he, with an air of conscious pride; "I read that," pointing to a beam, whereto was affixed a four-year-old almanack.

But much cannot be expected from a class of men upon whom the Government bestows an average yearly stipend of £3 10s.

The week previous to Lent, called the *Maslanitza*, is in Russia the time of the greatest dissipation of the year, and forms an admirable illustration of the meeting of extremes; of a sudden change from almost universal drunkenness and licentiousness to almost universal abstention and self-denial. During *Maslanitza* one is expected to eat pancakes at every meal, and the more of these a man can stuff into himself the prouder he is, and the more is he applauded; indeed, Dmitri's children frequently stowed away over a dozen at a sitting. In the capital, the merry-makings take the form of a huge fair, held upon the extensive parade ground known as the *Tzaritzin Loog*, and for six weeks before its commencement, thousands of men are busily employed in erecting temporary wooden theatres, merry-go-rounds, and booths of all sorts. Admission is charged to the various theatres and exhibitions, but all are free to enter the body of the fair, and each day

immense crowds assemble to wander amongst the rows of stalls whereon strange sweetmeats, rude wooden toys, and prints as devoid of art as though drawn by a Cherokee Indian, are exhibited for sale at absurdly small prices. All the regular traffic of the city is suspended, and the streets are blocked by strange country sleighs, which neither know nor obey any rule of the road, and are constantly colliding, overturning, and jamming.

Peasants come from great distances, and notably the Finlanders, who arrive with all their families, generally drunk, and always playing concertinas. They come determined to have a good time, and they carry out that determination. It is a remarkable spectacle, this vast good-humoured crowd, wrapped in its furs, seeking pleasure and finding it under the open sky, on the top of two feet of snow, in a temperature of 25° below zero.

Despite heavy snowfalls and cutting winds, people sit about at tables, drinking tea from huge grimy *samovars*; wait patiently for an hour to obtain entrance into a theatre, or stand about and watch the various shows as though their skins were quite impervious to cold. From a balcony of one large structure, an individual, made up as an old man of dissipated appearance, addressed the crowd and cracked jokes which created much amusement, but were such as compelled women to keep out of hearing, although the efforts of the old man were ably seconded by hideous representatives of that sex, dressed in tights and spangles.

The most popular of the theatres was one wherein a performance of the patriotic blood-and-thunder type was given, representative of the discomfiture of the French and burning of Moscow in 1812. The whole performance of fourteen scenes occupied no longer than thirty-five minutes, and the average ticket cost 8d., although standing room at the back cost but 3d., and a fine fight there was for it. In fact, if you wanted to get in anywhere, you had to be at the door long before the performance preceding the one you expected to see had commenced. The scenery, costumes, and even the acting, were surprisingly artistic for the money, and there was a complete absence of extravagance or vulgarity, even when tales from the *Arabian Nights*, which would furnish an excuse for a little laxity, formed the subject of the representations. As regards this particular historical display, however, there was much in it that was calculated to arouse the ire of Frenchmen, who were ridiculed in unmeasured terms. We were treated to a view of the battle-field of Borodino. Piles of dead Frenchmen, represented by real men, crowded every part of

the stage, whilst in the dim background there appeared one wounded Russian, thrown in just to save appearances—a heavy demand this on the credulity of those who remember that in this battle the French gained the advantage, if not a victory. But it pleased the emotional peasants mightily, who worked themselves up to considerable enthusiasm, cheering Kutusoff and his gaily dressed staff, hissing Napoleon, who rode in (an excellent make-up) on a real horse, and groaning at the sight of Moscow's flaming towers and crashing roofs.

The theatres were crowded from morn till eve throughout the seven days, and must have returned a large profit to the proprietors, although each of the latter had to pay the sum of £700 to the Government for the privilege of erecting his shed on the Tzaritzin Loog.

Panoramas formed a great feature of the fair, and were very popular among the peasantry, who crowded round them, waiting to pay the fee of 5 copecks (1d.) and see the wonders of the world. Most of these "panoramas" were the rudest contrivances; an unadorned candle-box having its top removed, and one of its ends pierced with two spy-holes, whilst at the other were successively exhibited, by the pulling of a string, rude coloured prints, supposed to represent the capitals of Europe, the storming of Plevna, and the Nevsky Prospect. There was very little variation in the subjects. At each of these panoramas you saw the same places as at all the others. But what was really amusing about these shows, and at the same time instructive, as giving some insight into the ideas and beliefs of the people, was the explanatory dialogue droned forth by the proprietor, as his clients gazed open-mouthed into the spy-holes. Here are samples:

"See the city of London, in which live Englishmen eternally amidst thick smoke and fog, never seeing the sky; a city of great wealth, but yet in which are thousands who have no bread and who manage to feed themselves by stealing. There is Hyde Park, and there sits on her horse, Queen Victoria, a widowed lady, about to set off to ask the Sultan of Turkey to pay her his debts, who replies, 'Madam, I am far more in want of money than you are.'"

Then we are told that Berlin is the "home of Prince Bismarck, once a great statesman, but now humbled and fallen in the dust." The Germans, we are asked to believe, live principally upon large sausages made out of dogs' hearts.

The Sultan of Turkey is shown to us squatting cross-legged

upon the floor, because, although he has a sofa, he is afraid to sit on it. He is credited with a practice of sticking people on stakes.

The showmen are no more complimentary to their own land than to those of other people, for St. Petersburg is described to us as a Russian city imbued with a German spirit, which spirit, however, will be extinguished ere many years have passed. With regard to this German spirit, it is not merely a jest but a very evident reality, and is by no means confined within the gates of St. Petersburg. Almost everything is in the hands of Teutons. The Tzar's First Minister is one by birth; the Government banks, the railroads, are mostly controlled by men of that race; many of the divisions and best regiments are commanded by men with German names, and, indeed, the General commanding the Moscow garrison recently boasted, in a speech uttered at a public banquet, that he was a German. The press is constantly calling attention to the increasing size and influence of the German colonies, many of the principal shops are German, and about one-half of the people encountered in the streets are conversing in the tongue of the Fatherland. Indeed, it is not to be wondered at that all classes of Russians hate the Germans with that cordial hatred engendered by jealousy and a consciousness of inferiority as regards intellect, industry, and perseverance. The average Russian cannot hope to compete with so formidable a rival, and therefore envy and hatred fill his heart.

But to return to the fair. Even for the right of standing about with his wretched peep-show, the proprietor has to pay a sum of 15s.; but the Russian peasant is a very child in simplicity, and derives the greatest satisfaction from looking at these rough pictures. Indeed, the fondness of these people for anything in the shape of a picture is great, and the number of cheap coloured prints purchased during the fair was immense. The favourite picture was one in connection with the memorable disaster to the Imperial train in South Russia. The Tzar and other members of his family are represented striking heroic attitudes amid the ruins of as complete a railway smash as could be imagined, whilst in the right-hand upper corner appears an angel, from whose mouth come the words "God saved the Tzar." Of course the fair boasts of an "ice-hill," like all other places of out-door winter resort. A sort of tower about fifty feet high, similar to those in use in Canada, is constructed, and from its summit to a spot on the ground two hundred and fifty yards distant there is formed out of huge blocks of ice laid upon a wooden framework a slippery inclined plane. The slope is not a

continuous one, being very much steeper at the lower end than at the other ; its outline, moreover, not being a right line but a concave. You ascend to the summit of the tower by means of steps, and seat yourself upon a small hand-sleigh which is then set going upon the incline, down which it rushes with fearful velocity. Down this particular ice-hill an incessant stream of sleighs was ever rushing, the boundaries on either side being lined by peasants standing there to witness the sport, chewing locust bean the while. It requires considerable skill and practice in order to guide the sleighs in this species of tobogganing, and indeed no one was allowed to descend the ice-hill at the fair without one of the licensed guides, on account of its being so lofty. Upon the road surrounding the Tzaritzin Loog a great array of vehicles of all sorts, from the English brougham to the primitive country sleigh, all jammed together in an apparently inextricable mass, was slowly proceeding, controlled by troops of mounted police, and on one afternoon when the crowd and the crush were at their highest, a sort of expectant murmur spread everywhere, and directly afterwards the "Gosoodar" and the Empress drove very rapidly along on the outskirts of the throng. We are accustomed always to speak of the ruler of Russia as the "Tzar," but by his subjects that word is seldom used, the more high sounding and reverent term "Gosoodar" being employed.

What a contrast between the aspect of St. Petersburg on the last day of the Maslanitzza, and on the following one—the first day of Lent. On the former, surging, crowded streets blocked by sleighs ; drunkenness, movement, flags, hilarity everywhere. On the latter, almost deserted thoroughfares, the *izvostchik* looking in vain for a fare ; the few pedestrians who were abroad proceeding on their way with slow step and sombre visage ; tranquillity everywhere. Offer to the peasant who has been uninterruptedly drunk for a week a glass of vodki or other strong drink, and he would not partake of it for a handful of gold. Such a man came in from the country in Lent to see Mrs. Dmitri on business, eighteen miles through the snow. She offered him a tumbler full of tea to warm him, but he refused it because, knowing he would not touch sugar, she had stirred in a spoonful of jam. Such an indulgence was far too toothsome for a rigid observer of the orthodox rites.

The Russians love anecdote, and there is one told of a peasant who one day during Lent, when upon a lonely country road, observed a sleigh approaching bearing only an unattended lady. Hoping

that she might be worth robbing, he managed to stop the horse, and having murdered the woman proceeded to rifle a large box which he found in the sleigh. But to his dismay it proved to contain only a very large sugared cake, of the sort used on high days and of considerable value. But the season was Lent, during which he would not even willingly touch with his finger such a thing of vanity; so he turned and left it. The noble fellow could resist temptation; he was determined to continue a good Christian. There were many who highly praised his conduct, and considered that his subsequent heroism more than compensated for the crime which occasioned it.

The middle classes in the towns do not for the most part fast very strictly, although there are many exceptions, principally old ladies, and the wall calendars, which generally publish a *menu* of what should be the day's dinner, are during Lent wont to declare that "it is incumbent on all good Russians to abstain from eating" this, that and the other.

Officially, of course, the season of penance is strictly observed so that the theatres even, being under Government direction, are closed.

Russia is a difficult country to get married in, that is as regards the performance of the marriage ceremony, for what with feast days, fast days and the eves of feast and fast days there are comparatively few days in the year whereon the laws of the Church allow it to be celebrated. Thus you cannot at any time of the year be married on a Wednesday or Friday because it is a fast day, or on Saturday because it is the eve of Sunday, or in Lent. I saw two marriages one evening this year a fortnight before Lent. It was the last chance for a wedding previously to the commencement of the fast, and there had been no opportunity for one for three weeks past. The marriage ceremony takes place in the evening, generally at 8. The wedding party stands at the centre of the church under the principal dome, and the general public crowds all round, leaving only a long lane from the party to the altar. There are two priests, or rather one priest and one deacon. The former reads various prayers in Slavonic, and at the end of each the deacon with stentorian voice, which is a mixture of a growl and a bellow, says, "Let us pray to God," after which a choir stationed away near the altar utters some chant. Instrumental music is not permitted in the Greek Church. After the priests, the chief performers at a marriage are two unfortunate male friends of the bride and bridegroom. It is the duty of these

persons to hold over the heads of the latter during the greater portion of the service large heavy crowns, gilt, and studded with gems of every sort. At one of the marriages witnessed by me the bride happened to be very tall, whilst her attendant was exceptionally short, so that he was obliged to stand on tip-toe to raise the crown even to the back of her head. When it came to the time for the couple to make the three tours round their circle of bridesmaids, hired generals, &c., which render the ceremony binding and irrevocable, his struggles to keep the crown where it ought to be, and to avoid falling over the bride's train, resulted in many a bump on the head of that unfortunate lady. It may surprise many to hear that the Greek Church, like Protestants, is split up into many sects, the number being about forty, and all of these vituperate each other quite as vehemently as all sects do. The Russian neither likes nor brooks being dictated to in spiritual matters. He is, however, a church-goer, and has a great reverence for the mysteries of religion, believing implicitly and literally every word of Holy Writ. It would scarcely be possible to stand at any spot in any street of St. Petersburg from which you could not see at least two churches, whilst every barrack, university, or other Government institution has its own chapel. Nevertheless, the inhabitants complain that there is nothing like sufficient church accommodation. This proves that they are not lax as regards public worship. It is an interesting sight to see the general public performing their devotions in the oratory of Peter the Great, that most revered of all Russia's former sovereigns. Upon the banks of the Neva, in the quietest and least considered part of St. Petersburg, still stands the so-called palace of the Great Tzar who founded the city. This palace consists of a low four-roomed wooden hut, painted externally to represent bricks. To preserve it from decay, a large wooden shed has been constructed over and around it. In three of the rooms everything stands precisely as it stood at the time of Peter's death. His sitting-room is crowded with elaborate and exquisitely carved furniture, every inch of which was fashioned by him alone and unaided. On the wall hangs the rude *obraz*, before which he daily prayed; upon the floor is his original strip of carpet, which would be dear now-a-days in a *bon marché* at 3s.; the drawers and wardrobes contain his uniforms, weapons, and orders. The little garden is now enclosed by a smart iron railing, the top of every spike bearing a gilt double-headed eagle, strangely out of keeping with the simplicity of all else, and which would arouse the ire of the

unostentatious monarch in whose honour it has been erected could he but see it. The fourth room has been converted into a chapel, the walls being entirely hidden from view by numbers of *obrazy* (pictures of the Virgin and Child, and of various saints). Many candles, the gifts of the worshippers, are constantly burning in sockets prepared for their reception.

There is no cathedral or church wherein the people of the capital would rather pray than here in this simple oratory, which is never quite empty, and several services are held there each day. Everyone tries to go there at least once a year, but especially at the end of December, when the room is as closely packed with people as it can be. An official in a uniform covered with eagles effects an immense sale of candles at the door, for it rarely happens that anybody goes in without first purchasing one. You can buy them of all prices, from the slender evil-smelling dip of a few copecks up to the ponderous large-bored specimen costing two roubles. Of course the more expensive your candle the more effectual your prayers, and the more likely are your petitions to be granted; at least such would seem to be the belief, else why not a uniform candle for the pauper and the prince? A miscellaneous motley crowd elbows its way into that place of worship. The shock-headed, frowzy peasant, in his greasy *tooloop* or coat of undressed sheepskin tied in at the waist, and worn with the woolly side inwards, jostles against the dainty lady attired according to the very latest Parisian mode, who is crossing herself with all the rapidity of which her nimble fingers are capable; the military officer for once allows himself to be shoved by the despised merchant, children edge their way in amongst the legs of their elders. Many persons who despaired of making their way in, or who could not wait, wrote their names on pieces of paper, wrapped their candles up in them, and passed them in to the attendant whose place it is to light them. Then, having seen the flame settle itself to burn steadily, they would cross themselves and depart contented. The bustle in the streets previously to and during Christmas week is similar to what one sees at that time of year in any large English town, but there are also sights to which we are not accustomed. There is probably not a Russian family in St. Petersburg, however poor, which does not have some sort of Christmas-tree, some thirty thousand of which, it is said, are sold annually in the streets. An open strip of ground between the Nevsky Prospect and the Gostinny Dvor (a huge quadrilateral arcade forming a hollow square, and in which are situate

cheap shops of every description) becomes transformed into a small forest, for the peasants are allowed to bring their fir trees in and there expose them for sale, camping under them at night. The butt end of each tree is cut flat and nailed to a wooden cross, to enable it to stand erect, and many of them far overtop the neighbouring lamp-posts. The peasants also bring in numbers of geese and very small pigs, all frozen stiff and hard as bricks, the former presenting an odd appearance placed in a row and craning their necks. I went with Dmitri's young son Ivan, who was sent to purchase a tree. Being undecided in his choice, the proprietor proceeded to urge upon him the excellence of his trees. "Look here, little dove (*galoobchik*)," said he, pointing to a tree, a foot of whose top had been somehow broken off, "here is a superb tree. Could you find a better in all Russia? It is from the depths of the forest. If you were to take that tree home, your little Mamma would kiss you and thank you, and say, 'What a clever little man!' and only three roubles," and so on, until we obtained a far better tree for less than one rouble.

Directly we had made our purchase, two men who had been hovering round to get the job of carrying the tree home for the customary 3d. rushed at it and seized it, and in their desperate endeavours to wrench it one from the other well nigh smashed the very stem. Finally, one man knocked the other flying into the snow by a blow on the chest, and then marched off in triumph but halting occasionally to turn and discharge volleys of abuse at his enemy. It is greatly due to the demand for these Christmas-trees that the forests in the immediate vicinity of the capital have been ruthlessly destroyed, and to this cause is partly attributed the marked change in the climate, for it often happens now that in the depth of winter a thaw suddenly sets in, in St. Petersburg, to the discomfort of everyone, although three miles from its gates 40° of frost are being registered. The Russian certainly does not feel the cold as we do, for on any day in the winter, no matter how intense the frost, so long as the sun is shining people may be seen sitting about in the parks reading and gossiping. When snow is falling, the Nevsky Prospect and Bolshaya Morskaya are far more crowded than when the sky is clear, for the inhabitants rightly say that the temperature is higher at such times than at others. It is instructive to see (as one may often do on a Sunday or other holiday) a fashionable, well-dressed throng slowly promenading, laughing and conversing, in the face of a heavy snow fall. A favourite winter resort is the racing enclosure, a huge oval where

contests take place every Sunday between sleighs. The spectators stand in pens situated between the course, which is more than a mile round, and the wooden paling enclosing it. The grand stand is at the centre of one of the long curves of the oval, abreast of the winning-post, and the price of admission to the various pens depends upon their distance from the grand stand, tickets for which cost 4s. The sport affords limited excitement according to our notions, for no actual contest between several sleighs is witnessed, the plan being that each sleigh does its distance round the course alone, the time which it takes being displayed above the judge's box. Then, when all the competitors have run the course, the one who has done it the quickest is posted the winner. The driving is certainly excellent. The driver sits upon the lightest of sleighs, consisting of some half dozen iron rods fixed together above two steel knives, the lash of his long whip trailing out behind like a pennant as he glides rapidly round the course, the horse he is guiding a mass of steam. Sometimes a man rides on another horse beside the one who is racing, in order to urge it on. The onlookers become greatly excited over these races, shouting their approval of the speed and of the driving, and betting freely. Indeed, the unmistakable "bookie" is there, whom even the orthodox *shooba* (fur coat) cannot disguise, whispering with his confederates and totting up his gains or losses.

It is a great pity that Englishmen have so imperfect a knowledge of the manners, customs, and sentiments of that great mass of humanity composing the Russian upper middle classes, which may be considered representative of the Russian nation, its ideas and aspirations. To judge Russia by its officials, and by those who are highest in society, is misleading, for of the officials it may be said that their policy is in direct antagonism with the hopes and wishes of those classes supplying the bulk of the intelligence, the energy, and the industry of the empire; whilst the high-born nobles and landowners entertain an hereditary hatred and distrust of all things foreign, a hatred enhanced by their consciousness of their country's backwardness in development and attainments, as compared with the rest of Europe. On the other hand, the lower orders, be they peasants or denizens of the larger towns, are too ignorant, too bigoted and prejudiced, to be taken as representative of any fixed ideas whatever; and so we find it necessary to search for the national pulse amongst those strata which, were Russia governed as other European countries, would furnish the bulk of the nation's representatives, would direct its

policy, internal and external, and shape its laws. Presumably, no one doubts that Russia is aggressive and grasping, and a standing menace to the general peace and prosperity. But that is "official" Russia, consisting of a small knot of ministers and highly-placed generals, the former adhering to old traditions and believing, or affecting to believe, that it is Russia's mission to rule the world and convert the whole of mankind to the orthodox faith; the latter anxious for the riches and honours which war would bring them, and not contented with the array of medals and orders which they can gain by serving peaceably in St. Petersburg or Moscow, but desiring yet another row to hang upon their breasts. With this official circle the Tzar himself is credited, by the greater number of his subjects, as having no sympathy; indeed, he is reputed to be a man of most liberal inclinations, and loving peace. But the regret is at the same time expressed that he is powerless, and entirely in the hands of his ministers, who would bring his reign to a termination, as their predecessors did those of other Emperors, rather than allow him to act independently. But take the average Russian, and he will soon make it plain to you that he hates the very idea of war, not only because he is anything but a warlike individual, and shudders at carnage and bloodshed, but because he considers that it is now Russia's wisest course to work quietly at the development of her resources and the replenishment of her empty coffers. He is proud of being able to say that Russia covers an area greater than that of the rest of Europe, but he is shrewd enough to be aware that she does not know how to develop this vast extent, therefore considers that the country is too big and unwieldy already, and is not at all ambitious to see any farther increase of territory. Men of every profession, bankers, retired officers, the clergy, &c. are all unanimous in denouncing war as the greatest calamity that could befall their country. English newspapers frequently alarm their readers with translations of fiery threats and patriotic exhortations to deeds of valour from the columns of a Russian journal called the *Svet*. This is owned and edited by one Komaroff, now a general, who would teach the people that Russia is the destined mistress of the world, and that, consequently, the only thing for her to do is to fight everybody. He is, of course, the idol of the extreme Russophiles, the students, and ignorant peasants, but by the bulk of the middle classes he and his paper are regarded with contempt, and almost ignored, and he no more represents the "voice of Russia" than does *Truth* that of England. About a year since, the Tzar had

occasion to receive all the leading military officers then in the capital. These were standing in line, and with each one of them His Majesty shook hands, until he came to Komaroff, whom he ostentatiously disregarded.

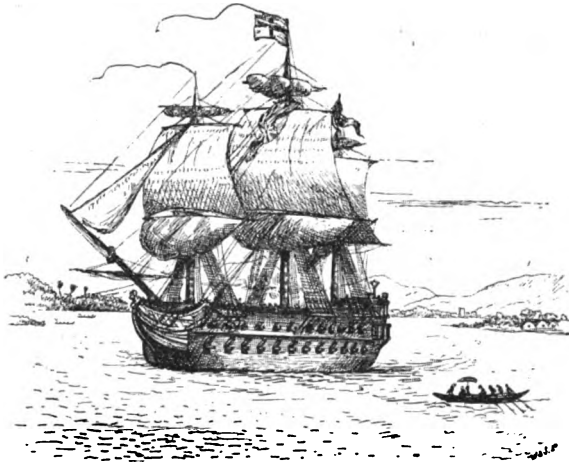
It is generally believed that the English Ambassador is striving to bring about a better understanding between this country and that of the Tzar, and the desire freely expressed by Russians for his success testifies to the goodwill they entertain for us. There seems, indeed, every reason to believe that even official aggressiveness would disappear were Russia to find herself in anything like alliance with Great Britain, for much of Muscovite high-handedness is undoubtedly the outcome of exasperation due to a sense of isolation, combined with a consciousness of inferiority as compared with the civilization of the Western nations. We have much in common with the inhabitants of Russia. There is a remarkable similarity between the two peoples, in their customs, in their proverbs, in their love of sport, and in their readiness to use their fists.

An old officer said to me that it was remarkable to note in the Crimea in 1854, how all ranks of English and Russians fraternized whenever a truce was proclaimed, freely entering each other's camps, exchanging brandy for vodka, and asking for news, whilst between Russians and French there was no intercourse whatever. And at the present time everything English is fashionable in St. Petersburg. To keep an "English table," wear English cloth, confide children to the care of English nurses, and to buy English horses is now the rage. In short, whether deservedly so or not, the Englishman is regarded by educated Russians as the leader of civilization and of enterprise, and England as the seat of wealth and refinement; all of which things the Muscovite greatly admires. And as when we respect an individual we desire his friendship, so the Russian nation respecting this nation is anxious to live in amity with it. Whether the lapse of time will bring about change of government, and unloose the fetters of officialdom now binding the Eastern giant, who shall say. Certain it is, however, that should this change happily take place, the world will speedily learn that the Russian of to-day is no longer a sullen, morose savage, out of all sympathy with the present order of things, but a warm-hearted, kindly, and well-informed man, who wishes his country to rise to wealth and influence, not by war and aggression but by peaceful industry and honest endeavour—a man whom to liken in disposition to the surly bear of his surrounding gloomy forests is calumny.

A Naval Episode.



THE accurate relation I am about to give has in it a lesson which may go down to our naval posterity to infinite generations, and yet carry a weight as pressing as it did ninety-three years ago. It is the old tale of the consequences of half doing things ; of the impossibility of knowing how far a matter needlessly left doubtful may strike its roots down into trouble and disaster.



1797.

The episode to be described takes us back to September 1797 ; to the Leeward Islands in the West Indies ; and to the 24-gun ship *Favorite*. Captain James Hanson, of that ship, fell ill, and representing his incapacity for service to Captain Russell, of the *Vengeance*, then senior officer at St. Christopher's, on the 12th of September, that officer ordered a survey upon him, and he was invalided on the 13th. It thus became necessary to appoint a successor, and Captain Russell gave Lieutenant Lord Camelford,

an officer not belonging to the *Favorite*, and junior to her senior lieutenant, an acting order as commander of the said ship. This order was in proper form, and made him "acting commander," thereby entitling him to wear the uniform of commander, and to take rank and command over all lieutenants.

Lord Camelford at once went on board the *Favorite*, read his acting commission in the presence of the senior lieutenant, Peterson, and the rest of the officers and ship's company. This Peterson was of rough manners, and of a temperament and character in strong contrast with that of his new commander. He was not very well pleased that a junior lieutenant should be placed over his head, but as the order just read charged everyone in the ship to obey Lord Camelford, "their said commander," Peterson might grumble, but must do as he was told.

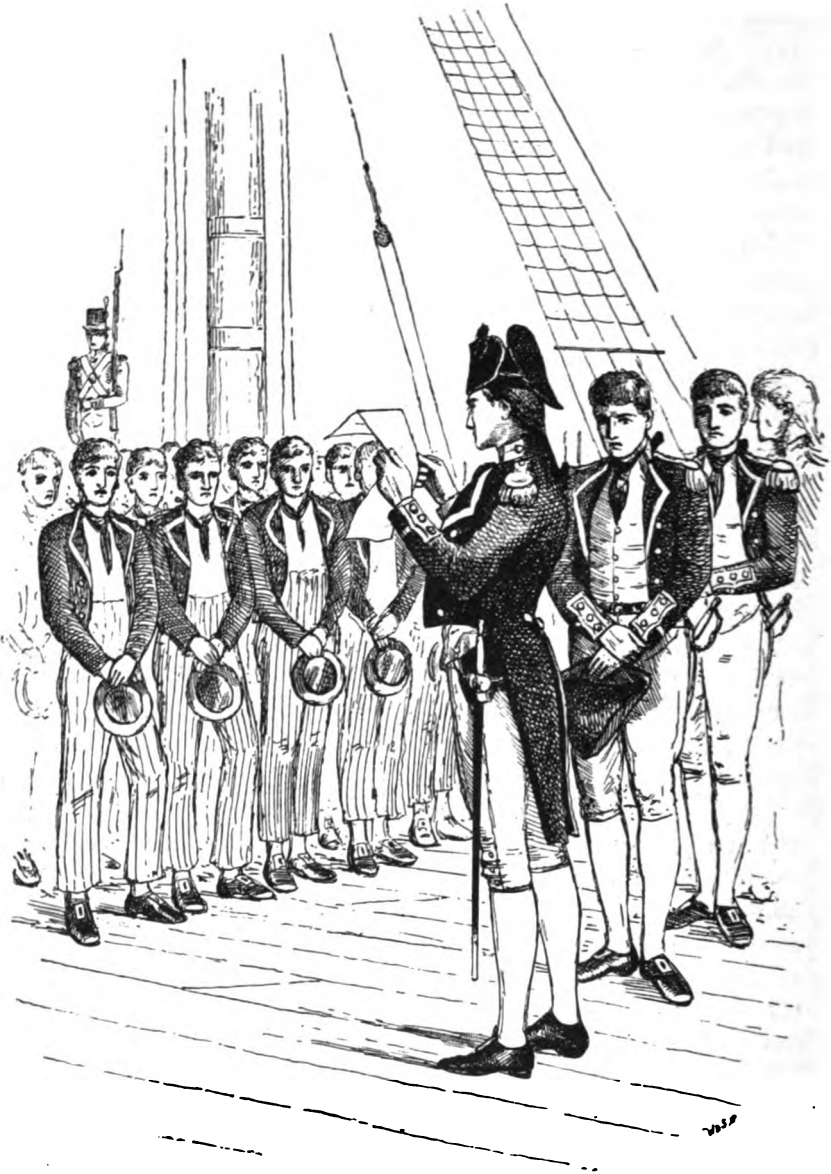
The positions of Lord Camelford and Lieutenant Peterson were thus made perfectly clear; so long as his lordship's acting order was uncanceled by an authority superior to Captain Russell, it was as valid as a commission from the Admiralty. The next superior authority was Rear-Admiral Harvey, the Commander-in-Chief in the Leeward Islands, who was at this time on board his flag-ship, the *Prince of Wales*, at Fort Royal, Martinique. Having news of what Captain Russell had done on the 16th of September, it was open to him to have cancelled Lord Camelford's appointment, or to have let it alone. He did neither; and the subsequent events were entirely the result of his carelessness or timidity. He was careless of possible complications, or else he was afraid of what the Admiralty might say to such an appointment as had been made. On the 16th he sent such an order to Lord Camelford, as made it doubtful whether he was an "acting commander" or whether he was a "lieutenant commanding" the *Favorite* by special order. In the former case he was the superior officer of all lieutenants, whether in his own or other ships. In the latter, his command over lieutenants senior to him certainly ceased outside his own ship. The Admiral's order ran: "To Lieutenant Lord Camelford, hereby appointed to command His Majesty's sloop *Favorite* until further orders, or until the pleasure of the Lords Commissioners of the Admiralty is known." That the Admiral meant him to remain, and considered him as a lieutenant, was known by the fact that in writing to him, the Commander-in-Chief always addressed him as "Lieutenant Lord Camelford."

Blood was no cooler ninety-three years ago than it is now, and the feelings of dislike which soon arose between the officer in

command of the *Favorite* and the senior lieutenant, did not decrease because the junior lieutenant held a doubtful rank. The two found it impossible to get on, and after three months of cross purposes, Camelford got Peterson, either willingly or by compulsion, out of his ship. He became senior lieutenant of the *Perdrix*, 16, commanded by Captain Fahie, and in Mr. Peterson's view, as well as in that of others, the change made him once more the senior officer of Lord Camelford. It could not be otherwise, he thought; Camelford was his junior on the list of lieutenants, his acting commander's order had been practically cancelled by the Commander-in-Chief, who always addressed him as a lieutenant, and so doubtful was his position that he did not even wear commander's uniform.

Young men in their early commands have invariably strong ideas of the importance of their office, and they look upon discipline from a formal standpoint of rigid logic, which subsequent experience generally shows to be untenable. A constant thought with them is, how to enforce obedience to their orders; the thought being the child of doubt, and the father of the very acts of disobedience they fear, and by which young leaders are sometimes troubled. Older men, reposing on their experience, know that the instinct and habit of those placed under their orders by law is obedience to that law, and that this instinct is not readily destroyed. But if it is placed in abeyance by any temporary causes, the old generally know how to rouse it without violence. Not so the young in command. They view those under their orders as in chronic opposition, mere powder-cases ready to explode on the application of the smallest spark; an aggregate of jacks-in-the-box, each ready to spring up stiff and defiant the moment the firm pressure of the lid is removed. The young commander also is excessively tenacious of the limits of his powers, and to this day will claim an authority which his seniors would not dream of asserting. The whole state of mind of the young commander is due to a reasonable doubt of his own powers, and if to this deep sentiment be added a real doubt of the range of his rank and command, we get a condition of mind almost violently explosive.

Lord Camelford was not an exception to the rule. Nay, the idea of mutinous disobedience to his orders was so present with him that he was perpetually laying out mental plans as to what he would do in such cases. He naturally looked for insubordination, and would almost have been disappointed had he not met with it.



LORD CAMELFORD READS HIS COMMISSION.

With such a mind, the doubtfulness of his new rank was certain to enhance its importance in his eyes, and to increase that vigilant guard over his prerogative which he considered in any case necessary. Every naval man knows the two ways of giving an order: the one which incites to a hearty obedience, the other to instant rebellion. Everyone knows also how constantly the most accurate and fine-drawn rules of rank and command come on occasion to a knot, which the least pull of passion will tear into a tangle, but which a gentle exercise of common-sense will unravel in a moment. Anyone might have predicted of Lord Camelford that patient common-sense would have been the last element present in his character, when a doubt arose as to the extent of his authority. In such a case the good of the public service would have been veiled from his eyes, and the assertion of his view, pure and simple, would alone have seemed to him all in all. The destruction of the kingdom would have been the very least evil to be apprehended from the placing of a limit to his command which he did not himself set.

Now we are to see how this character, acted on by circumstances favourable to its development, brought forth fruit to be expected from it.

On the 12th of January 1798 there lay in English Harbour, Antigua, three men-of-war. One of them, the *Babet*, Captain Mainwaring, lay ready for sea; the other two, the *Favorite* and the *Perdrix*, were refitting, and the crew of the *Perdrix* were housed on shore in the naval yard. Captain Fahie of the *Perdrix* was away on leave, so that Captain Mainwaring was the senior officer, and after him came either the senior lieutenant, Peterson, of the *Perdrix*, or the doubtful acting commander, Lord Camelford. Added to the existing doubt already set forth, there was yet another in the absence of the *Babet*. The *Perdrix*, commanded by a commander, was undoubtedly the senior officer's ship, and the temporary absence of her captain might not necessarily take the command away from her without special orders to that effect. Leaving these doubts behind him unsolved, Captain Mainwaring put to sea in the *Babet* on the 13th, and left the old enemies, Lord Camelford and Peterson, facing each other. We may be absolutely certain that each foresaw a struggle and that each nerved himself for the combat; both in passion, and neither in intelligent public spirit.

English Harbour had been in some apprehension of attack by the French, and Mainwaring had given an order that a guard boat

was to patrol the entrance of the harbour at night for the purpose of giving timely warning of the enemy's approach. Alarm signals were also arranged between the troops on the ridge above the harbour and the naval authorities, and these alarms, generally false, were in pretty constant action.

Next morning, that is, the morning of the 13th of January, one of these alarms was fired, and later Camelford sent a message to Peterson by Lieutenant Milward of the *Favorite* to have his ship's company in readiness and under arms. Peterson then told Milward that he wondered at Lord Camelford sending such a message, he, Peterson, being in fact the senior officer present. Milward told Parsons, the senior lieutenant of the *Favorite*, what Peterson had said, but Parsons did not acquaint Lord Camelford therewith. For all the latter knew officially, therefore, Peterson admitted Camelford's authority. But he really knew that this was not so, and young man like, could not rest without coming to an issue, and to such an issue as would cover himself with glory, and Peterson with humiliation. At eight o'clock in the evening, when no doubt all parties concerned were a little excited with wine, Camelford, lodging on shore, and apparently but a few steps from Peterson's mess-room, wrote out and sent, by the hands of Mr. Milward, the following order :—

SIR,

You will be pleased to acknowledge the receipt of the enclosed letter on Service.

I am, &c.,

CAMELFORD.

Lieutenant Charles Peterson.

By Lieutenant Lord Camelford, commanding His Majesty's sloop *Favorite*, and senior officer of His Majesty's ships and vessels lying in English Harbour, Antigua.

You are hereby directed to carry into execution that order of Jemmett Mainwaring, Esq., captain of His Majesty's ship *Babet*, and late commanding officer of this port, which respects keeping a guard at the entrance of this harbour; with this difference, that a midshipman of trust is to be put in charge of the boat, in lieu of a commissioned or warrant officer, and that she is to be kept at a grapple in the entrance of the harbour in lieu of rowing guard.

Given under my hand, on board His Majesty's ship *Favorite*, this 13th day of January, 1798.

CAMELFORD.

To Lieutenant Charles Peterson, commanding officer of H.M. ship *Perdrix*, in the room of William Charles Fahie, Esq., captain, absent on leave.

From a captain to a lieutenant, or even from any officer distinctly senior to another distinctly junior, such an order was clear, lawful, and proper. But in any such conditions the senior would have certainly sent for the junior, only a few yards off, and

expressed his wishes verbally with friendly counsel ; if he thought it necessary, besides, have issued formal written orders. But without verbal communication of any kind, at that late hour, and with the doubt which even his own order flung over his rank, Camelford threw down the glove to Peterson, and challenged him by such an order either to assert his counter-claim to command or to abandon it.

Peterson met the challenge as it was offered. He told Mr. Granger, master's-mate of the *Favorite*, who brought the order over from Camelford's lodgings, that the latter was "very presumptuous in writing in that manner to him." He was at that time in the mess-room of the *Perdrix*, part of a loft over the



ENGLISH HARBOUR, ANTIGUA.

capstan-house, reached by a flight of steps from the ground outside, and bulk-headed off into mess-rooms and officers' quarters. Below were the *Perdrix's* men, to whom arms and ammunition had been served out that evening in consequence of the alarms fired in the day time, and of a reported action off the mouth of the harbour. In fact, the men were at that moment engaged in putting their arms away close at hand to their hammocks, and ready for instant use.

Peterson was in a violent rage at the receipt of an order from one whom he deemed his junior. One eye-witness thought that he was not sober, but this was not the fact ; he no doubt had drunk, but not to excess, and his conduct was clearly the outcome

of passion, not of intemperance. He called Mr. Pigneuit, the purser of the *Perdrix*, to the mess table, and looking over his shoulder while he wrote, dictated the following "counterblast" to Lord Camelford's challenge.

By Lieutenant Charles Peterson, Commander of His Majesty's ship *Perdrix*, and senior officer of His Majesty's ships for the time being in English Harbour.

Whereas, the Island of Antigua is now under an alarm, you are hereby required and directed to cause the crew of His Majesty's sloop *Favorite*, under your direction, to



PETERSON DICTATES THE LETTER.

hold themselves in readiness to man the batteries round this harbour; also to cause a guard to be rowed round the entrance of this harbour during the night, and report to me their proceedings in the morning.

Given under my hand, on board His Majesty's ship *Perdrix*, in English Harbour, the 18th January, 1798.

CHARLES PETERSON.

Lieutenant Lord Camelford, His Majesty's sloop *Favorite*.

While this order was in process of writing and transcription, Mr. Granger was crossing over the water to the *Favorite*, within

hail of the yard, and reporting to Lieut. Parsons, Peterson's verbal remark about "presumption," which Parsons in due course, crossing back again, repeated to Lord Camelford. The latter thereupon directed Mr. Parsons to send the master's mate, Granger, to Mr. Crawford, the master of the *Perdrix*, to put Lieut. Peterson under arrest, and to assume the command of the ship himself. Peterson, in a greater rage than ever, directed the purser to take Granger's message down in writing, caused the messenger to sign it, and repeated several times that the "'Favorites' were presumptuous in sending him messages and letters of that nature." Then, Granger having left to report the result of his message, Peterson sent Mr. Crawford over with his written order to Lord Camelford. This was given to Parsons on the *Favorite's* side of the harbour, and the latter crossed back again to deliver it to Lord Camelford, on shore on the *Perdrix's* side. Here at length, in the view of that officer, was the acceptance of the challenge he had so deliberately and yet so ignorantly thrown down. Here was the direct mutiny he had been seeking for during his naval career; now he would show who was master, the commanding officer of the *Favorite* or that miserable senior lieutenant in temporary command of the *Perdrix*. The counter order "appeared to him throughout so thoroughly mutinous and refractory (inasmuch as it not only set him at defiance, and usurped his authority as senior officer of the port, but as Lieutenant Peterson therein styled himself captain of the *Perdrix*—which, by the way, he did not), that he immediately and without hesitation gave directions to Lieutenant Parsons to despatch Lieutenant Milward at the head of a party of marines, to arrest the person of Lieutenant Peterson, and bring him over to the easternmost capstan house, *either dead or alive*; there to be confined, without communication, until further orders."

Parsons went back to the *Favorite* and gave orders to Milward, but not exactly those which he had received. Camelford afterwards complained bitterly of Parsons's error, and laid at his door the subsequent trouble; but, as a matter of fact, the mischief was done by Camelford's boy-like want of common sense and determination to solve a doubt in his favour by the most violent means. It was needless to speak of after consequences, when the original message authorised the shooting down of Peterson by a file of marines. And the sad and childish absurdity of the whole thing shows itself in the solemn written order to Peterson to send out a guard boat, and the verbal message through a third party to

Milward to destroy Peterson off the face of the earth, if he could not otherwise get him over to the east capstan house !

However, away went Parsons over to the *Favorite*, and told Milward to take six marines, armed, with him to the *Perdrix's* mess-room, there to arrest Lieutenant Peterson and bring him over to the *Favorite's* side. "But," said Mr. Parsons, "if you find you cannot take him without force of arms and endangering his life, you are to acquaint Lord Camelford and take your further orders from him." Camelford's orders were to take Peterson "dead or alive"; and he seemed to think afterwards that if Milward had taken him *dead*, instead of waiting, all would have been well.



LORD CAMELFORD AT THE FOOT OF THE STAIRS.

All this was going on when it was pitch dark, and the two silly young men were playing with the edge-tools at their command, neither reflecting that in any case both must be cut by them, and that the public service itself was sure to suffer, even if things did not come to extremities. Camelford sent his armed party to Peterson's quarters, and Peterson on his side put a couple of armed sentinels at the foot of the stairs to secure himself against attack. When Milward came over with his party of marines, he found his progress barred by these sentries, and there was a parley. Ultimately Peterson gave leave for Milward's ascent, and

his marines scrambled up after him. They found Peterson in his mess-room, with Crawford and the purser of the *Perdrix*. Milward explained the nature of his mission, whereupon Peterson got his sword, declared he would not go under arrest, and either made a lunge at Milward with his sword or pushed him back with his hand. Peterson then went to his cot, and took thence a pair of pistols; one he laid on the table, and the other he kept himself. Crawford, the master, seized the one on the table, pointed it at the sergeant of marines and ordered him out of the mess-room. The sergeant, with the admirable stolidity of the Marine force, replied that Mr. Milward was "his officer," and he would not go until ordered by him. What had begun in silliness was like to end in bloodshed. Where swords were drawn and pistols pointed, at nine o'clock in the evening, it was not easy to say what would come to pass; and so thought unhappy Lord Camelford, who was listening at the bottom of the stairs. Peterson, excited, and wild in the presence of the armed force sent to arrest him under the command, by the way, of a young "acting-lieutenant," lost himself as much as Camelford had already done. He rushed to the window and halloed to his men below: "Perdrixes! Perdrixes! Turn out and arm yourselves." Then rushing to the bulkhead, on the other side of which was the warrant-officers' mess place, he banged against it with his pistol, shouting, "Turn out all officers! Mr. Maddocks, get the people under arms!"

At that moment was heard the voice of Lord Camelford calling up the stairs—

"Mr. Milward! Mr. Milward!"

"Sir," said Milward.

"Desist—desist, and come downstairs."

So down went Milward and his marines into the darkness.

Meantime, the "Perdrixes" half asleep, and believing that the alarm had to do with the orders of two hours before, were gripping their muskets and belts and hurrying out in front of their quarters, ready for the expected enemy, and not in the least knowing that this was represented by half-a-dozen of the *Favorite's* marines. These were, in fact, drawn up in front of the *Perdrix's* people, and Camelford had taken Milward apart for a moment while he hailed the *Favorite* to send a reinforcement.

Peterson then called from the stairs, as he descended to know where the "Perdrixes" were, and if they were all present; and one of them answered out of the darkness:

"Here we are, Sir."



DEATH OF PETERSON.

"Prime and load, and support your commanding officer," was Peterson's next command; and forthwith was heard the rattle and jingle of the butts and ramrods of some thirty or forty muskets on the ground.

"Have you got a pistol?" whispered Camelford to Milward.

"Yes, I have," replied Milward, handing him one.

Camelford advanced towards the "Perdrixes," pistol in hand, but it was so dark that he could not make out individuals.

"Where is Mr. Peterson?" he called out.

"He is here, Sir," answered a voice, which was not that sought for.

"Where?" again asked Lord Camelford.

"I am here, Sir—damme!" cried Peterson himself.

"Will you obey my orders?" asked Camelford, walking towards the voice.

"I will not," said Peterson.

Camelford went close up to him, cocked his pistol, and presented it to his breast.

"Do you still persist in refusing to obey my orders?" asked the doubtful commander.

"I do, Sir," replied the senior lieutenant.

A flash illumined the faces of the opposing parties, and the report of a pistol rang out. Peterson fell dead in front of his men, shot through the heart.

"Assist me, marines," cried the executioner, springing back to them.

"Here is another cartridge, Sir," said Milward, running up to him; "there will be more of this."

But there was no more of it. Camelford, failing to arrest his brother officer alive, had arrested him dead; and he might be carried away to the east capstan house with convenience. There was little more to be said about it; Peterson dead, left no possible rival to Camelford living.

"I have shot that man for mutiny," said the victor. "'Perdrixes,' you did quite right in obeying your officer's orders. Mr. Crawford is now your commanding officer. Where is Mr. Crawford?"

"Here, my lord."

"Will *you* obey my orders?"

"Yes, my lord."

"Then dismiss your ship's company."

"Yes, my lord."

So the "Perdrixes" went to their hammocks, and Camelford

went back with Milward and his marines to his own ship, there to reflect over the occurrences of the evening, and to remember that though no guard-boat was protecting the mouth of the harbour he had at least shot a lieutenant as a common-sense method of settling the construction of Admiral Harvey's written order.

There were two judgments pronounced on this extraordinary affair, so terrible, so childish, and yet so excusable. The court-martial, whose minutes I have closely followed, "unanimously and honourably acquitted" Lord Camelford, and they could do no less; otherwise they must have hung him for murdering his superior officer. But the judgment of the inquest was after all the safest. The verdict was, "It clearly appears to the present jurors that a mutiny had taken place, *but on which side* such mutiny did exist they cannot pretend to say, as a dispute had arisen which was the commanding officer, either the said Lord Camelford or the said Lieutenant Peterson; and the jurors upon their oaths aforesaid do say that the said Lieutenant Peterson came to his death in manner and form aforesaid, and not otherways."



The Practice of Night-Firing.

By CAPT. H. C. WYLLY, 2ND DERBYSHIRE REGT.



WE have already made a commencement in teaching our soldiers how to march and manœuvre during the darkness, and no company training can now be considered complete which does not include a certain amount of instruction in the practice of night operations ; but, so far as I am aware, there is no regulation which directs that the men are to be taught how to use their rifles otherwise than under the usual conditions of a good light and a fair field of fire. It seems to me that in laying down regulations only for the practice of musketry during the day-time, we are neglecting a very important and easy method of imparting instruction and of teaching discipline. It may rarely be necessary for any troops in actual warfare to be called upon to use their rifles during the night ; but should this ever become necessary, it is unquestionable that they will do so with all the greater effect if they have learnt, during peace-time, to practice all the situations of actual warfare. Again, for this reason if for no other, I would practice our men in night-firing, that is to teach them in an easy and interesting manner the advantages of discipline ; and I am quite sure that more may be learnt from a night or two spent in the practice of realistic operations than can possibly be gained from a week of mornings on the rifle range. When men are firing by daylight they are apt to look upon the whole performance merely as a matter of drill, the result of which is to be gauged only from the number of hits upon a target ; but, somehow or other, when they are taken out for night-work, the very darkness gives an appearance of realism to the whole operation, and if night-firing is carried out the veriest recruit can see for himself the absolute importance of implicit obedience and strictest attention to matters of the smallest detail. By day, inattention may pass unnoticed because no one is likely to be the worse for it ; by night, unless every single individual does exactly

as he is told and as do the men on his right or left, the most serious consequences may follow. I would, therefore, urge the importance of the practice of night-firing, both as a matter of instruction from a musketry point of view, and also as a means to an end of improving, quickly and easily, the discipline of our young soldiers.

The next thing is to offer a suggestion how such practice shall be carried out. It may, I presume, be taken for granted that we do not require to teach our men to fire when advancing by night to the attack; the best authorities seem agreed that an attack by night can only succeed when the strictest silence is maintained during the operation, and a position assailed by night can only be taken with the bayonet. It is then only necessary to carry out the practice from the side of the defence, who alone will open fire and that at the shortest ranges. Hitherto, whenever any attempt has been made to carry out the practice of night-firing, it has generally been considered necessary to light up the object aimed at, and occasionally, too, it has been thought advisable to permit the firing-party to paint the foresights of their rifles with luminous paint. Arrangements such as these are all very well when the practice is intended purely as an experimental one; but if such practices are ever to be generally introduced into the service, they must be performed as far as possible in peace-time under service conditions. The targets then must on no account be lighted up, nor must that other ingenious plan be followed which consists in a large party of men sitting in shelter close to the targets and firing blank ammunition in their direction. I have never been able to discover whether this latter plan was intended as a means of lighting up the enemy, or in order that the noise might give the defenders a guide as to the direction in which they should fire. From either point of view the plan seems objectionable, for it supposes that the enemy will do that which we are quite determined not to do ourselves, viz., to advance to a night-attack, firing and making as much noise as possible. For this reason then, if for no other, this plan must be condemned, since it would give our young soldiers an entirely false idea of the manner in which they may expect a night-attack to be delivered. But, on the other hand, if troops are on the alert, and if the most ordinary precautions are observed, it will rarely if ever be possible for any position to be attacked by night without the defenders having some notice of what is about to take place. The picquets will have been driven in—this will give the defenders time to turn out and make

some simple preparations, although they will probably not have time for every man to paint his foresight; whatever care may be taken by the assailants, and however dark the night may be, the defenders will readily obtain some inkling of the whereabouts of the enemy, and know that he is near some point, the range of which has been accurately determined during daylight.

I will now describe the manner in which the company under my command recently practised night-firing, and I would only say that I do this solely in the hope that any regimental officer who can suggest an improvement for future guidance will kindly do so. My chief aim was to carry out the practice in as realistic a manner as possible, and for this reason neither old soldiers nor picked shots were selected, but the men were just taken who happened to be going through company training at the time; it may be interesting, for the same reason, to point out that no especial precautionary measures were taken with regard to the canteen, which was not closed! A very dark night was selected, and the company (4 sergeants, 2 corporals, 2 drummers, and 65 privates) was marched down to the range, and was there drawn up by sections in line at 200 yards from the enemy, who was absolutely invisible. Every man was provided with a piece of tape to tie over his foresight, and I may at once say that this was found quite sufficient guide, and answered admirably. Anything white of the same nature, and which might on service readily be improvised, would answer equally well. Five volleys were fired by sections, the manner of firing—once the “fire” had sounded—being left entirely to section commanders, who were only cautioned not to fire while sections on the right or left were at “the present.” The enemy was represented by a row of screens placed in line in front of the stop-butt; on these thirty-six figures were painted, and hits—including ricochets—on the figures only were counted. The following “general idea” was carefully explained to the men before the practice began. “The company forms part of the garrison of a fort in an enemy’s country. One dark night the enemy is discovered to be advancing to the assault, and the walls are manned. The enemy cannot be seen, but is heard crossing a stream at a point which is known to be distant 200 yards from the fort. The defenders now open fire.” The men were permitted to kneel or lie down, since under the circumstances they would have had the parapet of the fort to lean against. I am only sorry that I did not take the time which elapsed between the “fire” and “cease-fire” sounding, but the time taken was certainly short enough to have

allowed of the whole five volleys being got in before the enemy, however resolute, could have crossed the 200 yards of fire-swept ground.

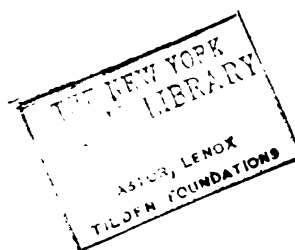
All the volleys were admirably delivered, and this in spite of the novelty of the situation, and in spite of the sections firing as rapidly as possible without firing together. This seems to me to prove the value of the practice as a training in discipline; for every soldier will have often seen at field-days, as I have, many volleys become broken or ragged simply from the firers getting excited at hearing rapid firing on their right or left. At the conclusion of the practice, the company was marched up to see the hits counted. Of the thirty-six figures only four were untouched, while both flanks had suffered far more severely than the centre.

Number of men firing	-	-	-	-	-	65
„ rounds fired-	-	-	-	-	-	325
„ hits on figures	-	-	-	-	-	149
Percentage of hits to rounds fired	-	-	-	-	-	45.48
Average hits per figures struck	-	-	-	-	-	4.65
Number of hits on right $\frac{1}{2}$ co. of enemy	-	-	-	-	-	53
„ „ left „ „	-	-	-	-	-	96

I have never seen men take more interest in any practice of their profession than they did in this night-firing, while, what is even more uncommon, everyone seemed to recognize its utility.

I hope that the above may possibly provoke discussion on a subject which seems to me to be of a twofold importance, by means of which we may train our men to use their rifles in all the circumstances under which they may on service be required to discharge them; and last, but not least, by the help of which we may the more easily and the more quickly be able to teach the British soldier the all-importance of a firmly-established discipline.







COSACKS ATTACKING A COACH IN DAGESTAN.

(From a Picture by Eduard von Ostenfeld.)

Passing the Russian Lines.

By A WAR CORRESPONDENT.



THINK it was on the 2nd or 3rd of January 1878 that I rode out of Erzeroum and cheated the Russians, after they had cut the telegraph wire and blocked the road to Trebizonde. The few foreigners in the place had already left, with the exception of the French Consul and his wife, and one or two monks. Mr. Zohrab, the English representative, with his wife and family, had taken their departure some weeks previous, in obedience to instructions from the Foreign Office, carrying all the archives of the Consulate along with them. O'Donovan, the famous Merv traveller, was lying at a village some three or four miles on the road to Trebizonde, waiting to be driven out of it by the enemy, and I had to remain in Erzeroum to receive a sum of one hundred pounds which had been wired to me from Trebizonde, and which the agent was endeavouring to collect in gold.

I was the only Englishman in the place, and the Russians were gradually drawing round it. After the defeat at the Aladjah Dagh and the retreat of Moukhtar Pasha from Kars to Erzeroum, there had been several sanguinary engagements between the invaders and the garrisons in the forts that defended the Devi Boinou (the camel's neck) Pass, on the Hassan Kuleh side of the fortress; and now the Russians were advancing on the northern side. Several times they had approached so near as to be able to send showers of rockets into the town in the middle of the night, in the hope of setting fire to some of the houses and creating a conflagration, but, fortunately, without success, for there was little or no inflammable material to ignite, the houses being built of mud mixed with straw, or of stone, and the roofs being of beaten earth; which shows that the Russian Intelligence Department could not have been very well informed.

I remember it was bitterly cold, and that there were two feet of snow in the streets ; that I wore jack-boots and a long coat reaching to my heels, both lined with lamb's skin, with a huge collar to the coat which I could turn up, and thus keep my ears warm. Wood was at an enormous price ; but I nevertheless kept a roaring fire going all day and night in my room. I remember I had numbers of visitors all day, and far into the evening. It was the fire that attracted them. Not many persons in Erzeroum at that time could or would afford such a fire as I burned, at the price fuel was then. When my visitors felt cold at home they came in to see me



I CALL ON THE "WOLF."

and have a warm, and there were always bottles of mastic and Boston rum, tea and a tea-pot on a side table for those who cared to heat the inner as well as the outer man.

My callers were nearly all Armenians, and they all thoroughly hated the Turks, and longed for Russian domination, and they used to discourse in accordance with their feelings, which, considering I had always been taught to consider the Russians as my natural enemies since the days of the Crimean War, when bread rose to more than a shilling the quartern loaf, considerably irritated me. I used to let them have it though—I who was a Turkophil—and I

took no pains to bridle my tongue. They were obliged to listen to me, however plainly I spoke, or leave the fire, which would have been too great a privation; so I always had the best of the argument.

One day, a little before noon, news came that the Russians were advancing in force on the north side of the town. That very morning O'Donovan had sent in an Armenian peasant from his village, to warn me of this, and to fetch a ring he had left behind him. The peasant never reached his home; he was cut off by the invaders before he could get back, and O'Donovan had to retreat along the road to Trebizonde.



THE START.

That afternoon there was a skirmish, and I could see at once that the Turks did not mean to fight; in fact, they were not in sufficient force to take up the offensive and drive off the besiegers. At three o'clock in the afternoon the firing was over, and the Turkish contingent had withdrawn within range of the forts. The Russians had succeeded in the main object of their advance; the road to Trebizonde was blocked, and the telegraph wires cut. When I rode into Erzeroum that afternoon, after the engagement, I had made up my mind that I would leave the town. Before evening I had come to an arrangement with a young Armenian, who also

wanted to get away, to act as my guide. I was to provide him with a horse and give him five sovereigns for his services. The next day I purchased a second horse, and in the afternoon called on the Governor.

It was Ismail Pasha, surnamed the Kort Pasha, or the Wolf Pasha, who was then Governor and Commander-in-Chief. He had acted in that capacity before the arrival of Moukhtar Pasha, at the commencement of the campaign, and when Moukhtar had left for Constantinople, some time after the defeat on the Aladjah Dag, had resumed his former post.

It was about sunset when I made my call. The Wolf, so christened because of his ferocious nature, although I must say that personally I always found him a most kind and amiable man, was a grizzly, shaggy-bearded fellow, of fifty or more; a Kurd by birth, who had risen to his present position by his firm and energetic character, coupled with the helping influence of some of the womankind of his family, who had married extremely well.

I found him at the head-quarters, seated cross-legged on the floor, with his back leaning against an angle of the divan that ran round part of the room. There were two or three officers sitting in front of him on chairs, and among them I noticed the Topchi Pasha, or commander of the artillery train. He was an old white-headed fellow, who had been in the Crimean War; he wore the English medal, and at his quarters had a portrait of the Queen, of which he was very proud.

After the usual salutations and some conversation on the events of the previous days, I stated my business. I wanted to leave the town. The telegraph wires had been cut, the road to Trebizonde was blocked; I could no longer be of any use to my employers at Erzeroum, and I had come to ask for a pass to leave the town. The Wolf first of all urged me to stay, and was joined in his instances by my friend the Topchi Pasha.

"You have been with us all along," he said; "you have been at all our battles, you are our brother. If you have anything to complain of, tell me what it is; if it be a question of getting your letters sent forward, I will undertake to send them for you, along with my own despatches."

The commander of the artillery train reminded me of various perilous occasions during the war in which we had been together, and I confess that listening to these arguments of my companions in arms, urging me to stay with them and see the end

of the business, I wavered in my resolution. It was barely for a moment though.

"I must go," I answered; "I should like to stay here with you, but unless I can telegraph—and that will be out of the question—I shall be of no use, and shall get into trouble with my employers."

When the Wolf saw that I had made up mind to go, he asked me how I proposed leaving.

"You will not be able to take the high road," he said; "the *Giaours*, by this time, are there in force."

"Yes," I answered, "but there are tracks through the mountains which cannot be occupied by the enemy, and it may be



CONFOUND IT!

possible to get through that way; at all events, I will take my chance. I have engaged a man to come with me as a guide; all that I want now is a pass to get through our own people."

The Wolf then asked me who was the man who was going with me.

"He is an Armenian," I replied, "named Carabet."

The Wolf made further inquiries, and having at length established Carabet's identity in his own mind, he exclaimed:

"He is no good; he knows nothing about the roads, and if you go with him you are certain to fall into the hands of the Russians, which I don't suppose you want to do."

I answered, "No; that I knew nothing about the guide I had

engaged, except that he was known to the people where I was staying; that he had assured me he knew the roads, and that he was the only guide I had been able to find. All I wanted was to get away, and the sooner I left the less would be the danger; that if I delayed the Russian *éclaireurs* would be advancing along the high road, which would make it more difficult for me to reach it at a point in front of them; that I thought if I started at once, I could, after a detour in the hills, strike the road at a spot where I fancied it would still be free.

The Wolf seemed satisfied that I knew what I was about, and he then asked if I had any idea where Sir Arnold Kemball was? Sir Arnold had been acting as military *attaché* at the Constantinople embassy, and was then chief military *attaché* with the troops in Asia.

"No," I answered; "I do not."

"Well, he is at a village at the foot of the Kop Dag, on this side of it. As you are determined to go I will give you an escort, and you can carry despatches for me to Sir Arnold Kemball, informing him of what has occurred recently."

"With pleasure," I said.

"When do you propose leaving?" asked the Wolf.

"This night."

"At what hour?"

"At any hour your Excellency pleases."

"Will eleven o'clock suit you?"

"Very well." And so it was arranged. I bade them all good-bye, and they wished me a pleasant journey. I felt considerable regret at having to leave all these kind people, with whom I had been intimately associated for many months, and among whom, notwithstanding the hardships of the campaign, I had been very happy.

I returned home, had my dinner, made the final arrangements for my departure, and then went to sleep.

My baggage was neither voluminous nor heavy. A pair of saddle-bags slung across my spare horse contained all my wardrobe. A spare flannel shirt, two pairs of woollen stockings, a woollen undervest, a few pocket handkerchiefs, the traditional tooth-brush, a piece of soap, paper, ink and pens, a bottle of mastic, a glass, some tea, sugar, and tobacco, and a small tea-kettle, were all that I required to set out on my journey of a hundred and eighty miles, through a wild country, deep in snow, and was in fact all that I ever had with me during an eight

months' campaign in Asia. When an article of clothing was worn out, it was renewed. My money I carried in a belt round my waist. I have always found this the best way to travel in countries where there are no railways and no navigable rivers or canals, and where one has to go along on horseback. Men who wander about with baggage animals are constantly delayed, and generally wind up by losing both baggage and cattle. Even such an experienced traveller as poor Fred Burnaby discovered this when he saw his baggage pony lie down in the stream, shift its load off its back and spoil all his cartridges, as he relates in the description of his journey on horseback through Asia Minor.

The escort reached my door at the appointed hour, and consisted of three cavalry soldiers. It was bitterly cold. There had been a thaw during the day and fine rain, and towards evening it had begun to freeze, so that the streets were covered with a sheet of thin ice—what the French would call *verglas*. It was pitch dark. I rode the grey horse, and the bay, saddled and bridled, was led by one of the soldiers. I had determined to keep him fresh and ready, in case of pursuit. The street was so slippery that notwithstanding both my horses having been newly rough shod, we had hardly gone ten paces before the one I was riding came down with a crash, without the least warning, all of a heap in the middle of the road. It was very fortunate for me that I went clean over his head, and that he did not fall on me and break one of my legs. As it was, he picked himself up, and then, having learnt by experience that it was necessary to be extremely careful, went along without any further accident. We passed through the Turkish lines, being summoned at every moment to show our pass, and at last got beyond town and soldiers into the hills, and proceeded in a south-westerly direction. After riding a few miles through the snow, we came to a small village where we put up for the remainder of the night. The guest-house, I remember, was full of people who smoked their chiboucks and gossiped for hours round the cow-dung fire, and showed themselves extremely anxious to learn from me the actual state of affairs, and, of course, I satisfied them to the best of my ability. The next morning at daybreak we set out again, and that day got over a good deal of ground.

At sunset we reached a village high up in the hilly country, where there was no barley to be had for the horses, and we were obliged to give them bread and flour as a substitute for corn. The next morning we started late. When I looked out of the door,



PAST DE MICE.

there was nothing to be seen but snow—not a human being, not a tree, not a track even. My men were doubtful as to the direction to take, and said we must wait until some other wayfarers who were in the village had set out and shown us the road. We did so, and all that day we wandered through the hills, floundering about in the snow until night. On the third day, when we got out in the morning, the weather had cleared up a bit, and our absent friend the sun seemed striving to pierce the haze. About three o'clock that afternoon we struck the high road. All appeared quiet. There was not a soul to be seen anywhere. The road was a straight one for miles and miles, as far as the eye could see, before and behind us. Nevertheless, I was anxious; for here, in the solitude that surrounded us on every side, I began to fully realise my position. Supposing a troop of Cossacks were to suddenly swoop down upon us! I was an Englishman; I had been serving in the Turkish irregular cavalry; I was now the bearer of Turkish despatches. If the Russians or Cossacks caught me, they would probably shoot me, and, considering my nationality, would be delighted at the opportunity. I had firmly made up my mind that, come what might, I would not be captured. It seemed to me that we had ventured on to the high road too soon, but the escort assured me that they had carefully inquired, and that no *Giaours* had been seen in the neighbourhood.

Some distance along the road we fell in with a number of wretched-looking Turkish soldiers. They were without arms, and were all in ragged uniforms. Many of them were wrapped in coverings formed of pieces of sackcloth sewn together in lieu of great-coats, and none of them had boots—bits of raw hide, fastened on to the feet with string, taking the place of these. Each had a canvas bag slung over his shoulder to hold provisions. These men were what was termed convalescents. The Turkish authorities, being advised that the Russians were about to surround Erzeroum, had evacuated the hospitals of all the sick who could walk, and had sent them off on foot to Erzinghan, a distance of several days' march through the snow. Some of these poor creatures, noble defenders of their country, had sunk down to the ground, and were lying in the snow by the roadside quite exhausted. All we could do was to rouse them up, and urge them to drag themselves to the nearest village. My mastic bottle had been emptied long before, and my own position was too precarious a one to allow of my loitering on the way to assist others. It was near sunset, and time to think of the evening meal, and I inquired of my soldiers

where we were going to eat. They pointed to a good-sized village some little way off the road to the left, and I told them to urge each of the poor fellows whom we passed to hurry along to that place, where I would have two or three sheep killed for them, and give them a good dish of *pillaf* to boot. This brightened them up, and encouraged them to put their best leg foremost. I set about the dinner as soon as we reached the village. Two sheep were slaughtered, a great fire was lighted in the open air, the carcasses were stuffed with rice, then impaled and set out over the ardent wood, and in an hour's time sufficient roast mutton and *pillaf* were served up in two huge salvers to make my own party and all the wayfarers in the neighbourhood perfectly happy for the time. My generosity did not cost me particularly dear. The two sheep came to five shillings, including the skins, which were secured by my soldiers, and the rice and bread another three shillings.

The people at this village had seen nothing of the Russians, but still my anxiety was not allayed. We had taken three days to do in the hills a distance that their Cossacks would accomplish along the road in twelve hours. I felt sure they would have begun to search that road and the surrounding country, shortly after destroying the telegraph, if only for forage. Besides, Edhem Pasha's cavalry, which had been stationed outside Erzeroum, with orders to retreat towards Trebizonde on the advance of the enemy; was on ahead of us. So I determined to do a night march, and in any case reach Edhem Pasha, with whom I should be safe.

When, after dinner, I informed my escort of my intentions they demurred. They were in a large comfortable village, where there was abundance of food and fuel; outside, the country was two or three feet deep in snow. Travelling in day time was bad enough in such weather, but at night it would be intolerable. Every possible excuse was made; the horses were fatigued and needed rest, there would not be another village for several hours, there was no fear of the Russians, who were leagues away. I could see that I had a good deal more military experience than my escort, and I fully made up my mind that go on I would, even if I had to leave my soldiers behind me.

"The *Giaours*," I said, "may be upon us at any moment; they are probably hurrying along the road at this very minute. If there be no danger, why has Edhem Pasha, whose orders were to retreat before them, gone forward? Why did not he quarter his men here and in the neighbouring villages? Besides, the orders

of the Pasha at Erzeroum are that we are to reach the English Pasha with the least possible delay." Then I produced the despatches. "Here are the Pasha's letters, and if these fall into the hands of the *Giaours*, I shall probably be shot; and if you ever go back to Erzeroum without me, or without a certificate from me testifying to your good behaviour, you will be first of all bastinadoed and tied up by the thumbs to make you confess, and will then be hanged by the Wolf. In any case, I am going, whether you come with me or not. Bring out my horse."

They endeavoured to effect a compromise, by suggesting that we



TURKISH CONVALESCENTS.

should set out at midnight; but I could see that it would be infinitely more difficult, if not impossible, to get them to move in the middle of the night, when, perhaps, I also would be fast asleep, than at present. At length, seeing that I was determined to push on, they remarked that if the Bey—that was myself—thought it necessary to ride all night, they were his slaves, and would accompany him; that they had only to obey their lord's commands; that when they had respectfully suggested we should pass the night in the village where we were, they had never intended to disobey their lord, but merely to save him an unnecessary night journey.

So the matter was settled, and we all left the village together, on the understanding that we should ride on until we came up with the cavalry.

It was a fine night. There was a moon for some time, and the snow was fairly hard. We rode along in this way for four or five hours, singing to cheer up the horses. I have always found that when one has a long wearisome journey before one, on tired horses, the best thing is to sing. Circassians invariably do so. Any song will do, sentimental or comic. Your nag pricks up his ears and listens attentively, and you soon find that he is picking up courage and putting his best leg foremost, by the way he feels under the saddle. My men, however, did not knuckle down cheerfully to the night-march, and whenever a light shone on our right or left, indicating a village, they suggested we should make a halt. I kept very firm though in my determination, and each time a village was pointed out to me I inquired if Edhem Pasha was there. No. "Very well, then; we will go on till we find him." And on we went, regardless of the inviting lights that danced from time to time on either hand.

At length we reached our goal, a large village standing on either side of the road. The greater part of the cavalry was there with the commander, and the remainder was quartered in neighbouring hamlets. They led me to the Pasha, who was surprised, and very glad to see me, and to whom I gave the latest news from Erzeroum. Then they prepared my bed, and brought me food. While I was eating, and after the attendants had withdrawn, the Pasha remarked,

"Would you like a glass of beer?"

Mohammedans are not forbidden by the precepts of their religion to drink beer, which they cunningly term barley water (*arpa sou*). Wine and spirits are the beverages that they are ordered not to touch.

"Should I like a glass of beer, Pasha effendi?" I answered. "I should, indeed."

"Well, then," continued Edhem, "if you look in those packs you will find some pale ale."

Those packs were two leather trunks, which were carried by a mule, and they were full of bottles done up in conical straw coverings. I removed one of them from its envelope. True enough, it was labelled "Pale Ale." "What luck," I thought, "to fall upon such capital tippie in such an outlandish place." I drew the cork, and smelt the neck of the bottle. Strange to say, the

smell was that of brandy. I poured a little into a drinking vessel, and tasted it. It was as good as Exshaw's No. 1.

"Pasha," I said, "why, this is brandy!"

"Brandy?" he inquired, and there was just the suspicion of a wicked twinkle in his eye. "I suppose they have made a mistake. Try another bottle."

I opened three. They all contained excellent brandy, and I expect the Pasha could have told me that before I drew the first cork.

"Why," he quietly remarked, "the fools have made a blunder. They have put up brandy instead of pale ale; but as there is nothing else, I suppose we must drink it." And we did.



"PASHA, WHY THIS IS BRANDY!"

When, shortly afterwards, I related to Sir Arnold Kemball this story of the commander of the Turkish cavalry travelling about with a mule-load of excellent *fine champagne*, in bottles labelled "Pale Ale," he turned to his aide-de-camp and exclaimed:

"By Jove! McDougal, I wonder where he got it from. Do you think we could get any from the same place?"

Good liquor was scarce in those parts, and the commander of the cavalry had shown himself a prudent man to lay in a store of such an essential comfort in a hard campaign.

At daybreak I was on horseback again, and after a couple of hours' march reached the village where Sir Arnold was staying, at

the foot of the Kop Dagħ. I delivered him my despatches, and gave him the news. He told me that O'Donovan had that morning left for Baibourt, and that his first stage would be a village on the other side of the mountain.

On leaving Sir Arnold, I went to the guest-house where O'Donovan had been staying, and ordered barley for the horses and a boiled fowl for myself, intending, after a rest, to cross the formidable Kop Dagħ that towered up beside us. I have eaten hundreds and hundreds of boiled fowls in my life in Turkey. It is the one dish that never fails a meat-eater. When travelling alone in the interior, a man cannot constantly be killing sheep and lambs. In every village there are fowls and rice. The liquor in which the bird is boiled, with a handful of rice thrown into it, makes very good *chorbah*, or broth, and the fowl forms just the proper ration for a hungry man.

The villager had brought in my meal, and I was taking the first spoonful of broth when in rushed a man, seized his saddle-bags, and bolted out again in a great hurry. I inquired what was the matter, but was unable to get any information. At length I went out, and there ascertained that the Cossacks were upon us. The *chorbah* was gulped down, the fowl was thrust into the saddle-bags untouched, the horses were at the door, and I mounted. I told the most intelligent of my soldiers to stick close to me; the other two, with the spare horse, I sent up the mountain, along the beautiful military road that runs between Erzeroum and Trebizonde. Just as I had completed these arrangements, which did not take me five minutes, Edhem Pasha's cavalry, which I had left at daybreak, were driven in, and came galloping past me. I trotted down the road to Sir Arnold Kemball's quarters, but he and his aide-de-camp had ridden out in the direction of the enemy, and his baggage-animals were just leaving the house. I rode on until I came up with him, and then, from where we stood, watched the advancing Cossacks through my glasses. There were several hundred of them. We waited until they had fired; and then, turning tail, we galloped back through the village and up into the mountain, where we knew we should not be pursued. The ride across the Kop Dagħ occupied the whole day. It was bitterly cold. There were several cases of frost-bite, and among the victims to this severity of the weather was an English officer who was writing for a morning paper. This gentleman had an Armenian servant, who rode behind him all day, and when it was discovered that the master's ear was frostbitten, the servant

quietly remarked that he had seen what was happening. "Then," we inquired, "why did you not tell him?" "How could I," he answered, "dictate to my lord what he had to do? If he had turned up the collar of his coat the accident would not have happened, but it was not for me to take the liberty of telling my lord to do so." It is almost needless to remark that we all thought this was carrying respect for one's superior a long way too far. The result was that the officer actually lost a piece of his ear.

It was long after dark when we got across the mountain and reached a village, on the left-hand side of the road, where O'Donovan was quartered for the night. Notwithstanding that



"THE COSSACKS! THE COSSACKS!"

my stirrups were bound round with list, and that I was wearing high boots lined with lamb's skin, my limbs were so numbed that I had to be lifted out of my saddle, and to have my feet plunged in icy water as a guarantee against frost bite.

Next morning we set out quietly for Baibourt and Trebizonde, and I took an early opportunity to point out to my escort how closely we had been pursued by the Cossacks, and what a narrow escape we had had of falling into their hands; and that if we had passed the night in the village, where we had had our banquet of roast mutton and *pillaf*, and where they wanted to stay, we should certainly have been captured.

Some Lessons from the Franco-Chinese War.

By LIEUT. COL. E. N. SHORE, R.N.



THE series of "reprisals" executed on the Chinese seaboard by the French forces under the late Admiral Courbet are now only a curious matter of history. But the peep behind the scenes of Chinese administration which was obtained at the time through the means of foreign observers and newspaper correspondents, enables us not only to gauge with some degree of accuracy the extent to which the recent much-vaunted reforms have permeated the naval and military systems of the Empire, but to form tolerably correct views as to the value, in a fighting sense, of the portentous machine at the disposal of the Imperial "War Office." Briefly, these reprisals comprised the destruction of the Foochow arsenal and naval flotilla; the seizure of the two insignificant ports of Tamsui and Keelung, in the Island of Formosa, and the destruction of two old wooden frigates in the Sheipoo Roads. How far these operations of war redounded to the glory of the French navy, it is not our purpose to inquire into; but from the triumphant note sounded by almost the entire French press, as well as the lavish praise bestowed on the late admiral in command, it is evident that in the opinion of his countrymen, the massing of a powerful fleet in the harbour of a foreign power during time of peace, and then without declaration of war to bombard an arsenal, to "blot out" a fleet, and to maintain a murderous fire on sinking and utterly defenceless vessels long after every means or intention of resistance has disappeared, is not only a fine piece of strategy but completely in harmony with the "civilizing mission" which French statesmen have marked out for their nation in the Far East.

As an incident in modern warfare, from which any useful lessons can be gathered, the Foochow affair is scarcely worthy of notice.

That nine heavily-armed French vessels, amply provided with all the modern paraphernalia of war, could speedily "blot out" a heterogeneous flotilla of lightly built Chinese gun-vessels and transports, manned with scratch crews sent on board at the last moment, and composed largely of untrained "boatmen," who openly "vowed they had no stomach for the fight," is scarcely surprising. But what are we to think of a general who, in full cognisance of the storm that was brewing, made absolutely no serious preparations to ward off the blow?

The Foochow arsenal stands on low ground about twenty miles up a tidal river, the entrance to which has been defended by forts constructed on modern principles, partially plated and armed with rifled guns of heavy calibre, which, in conjunction with a judicious system of torpedo defence, ought to have made the approach to the arsenal absolutely impregnable. Once past these forts, however, as the French well knew, the arsenal and fleet was at their mercy. This fact was, of course, equally patent to the Chinese, yet the only defensive measure which seems to have suggested itself to the military authorities was the construction of a small earthwork armed with a few light field-pieces, which were silenced by the French ships within a few moments of commencing the fight.

The distinguished official entrusted with the defence of the river Min was a certain Chang-Pei-Lun, who has been described as "the most fire-eating barbarian-hater that the ignorance of China has lately produced," which is saying a good deal. This officer was appointed Special Commissioner of Coast Defence in conjunction with the Viceroy of the Province, and spent some three months at Foochow making his preparations. What these consisted of we can only dimly surmise. It is interesting, however, to know that not long before the storm burst he reported to Peking that his defences were completed, and that he was quite ready to meet the French. His infatuation was evidently shared by others, for several of the local mandarins boastfully declared to foreigners that the French fleet was at their mercy, and went on to describe Admiral Courbet as afflicted with St. Vitus' dance, the result of suppressed valour! How hopelessly in the dark even intelligent natives were as to the true state of affairs was shown by the remarks of a young Chinaman, described as intelligent, well-connected, and as having been educated for seven years at Yale and Harvard Colleges in America. This cultured youth persisted that the Chinese held off from the French throats from lofty

motives, and that his countrymen could blot out the French fleet at any moment. Meanwhile we are told that the manufacturers of "pikes" drove a roaring trade in Foochow; while, on the other hand, as if the shoemakers had been gifted with more prescience than their fellow-countrymen at large, the shoe shops, the commercial barometers of Chinese cities, began to close.

Chang-Pie-Lung maintained his self-possession to the last, and just before the fight was described as being eager for the fray—even matching the French Admiral in his impatience at inaction. The step from the sublime to the ludicrous was, alas, only too brief. The able *Times* correspondent, who alone represented the press at the engagement, says: "He behaved as I foretold, like an abject poltroon. As soon as fire opened he started in a sedan-chair for the Kushan Monastery, overlooking the river, where he directed operations. In other words, he hid himself." Chang-Pie's official version of the affair has yet to be made public.

With such an example before them, we need scarcely be surprised to hear that after the bombardment the Chinese officers lost all control over the soldiery, who rapidly dispersed, taking with them their arms and ammunition, and the country round was for some time after covered with bands of these men, ready for murder, pillage, and insurrection. Proclamations were posted, offering 30,000 taels (about £9,000) for a destroyed French ship, 5,000 taels for the head of the French admiral, and 200 for an ordinary officer, and these were said to have been signed by four of the highest officials in the province.

The French fleet being unprovided with a landing party, sufficient either to hold the works they had silenced or to effect any further measures of destruction, it was necessary to clear out of the river before the Chinese took it into their heads to block the Channel; and unquestionably, if the defence of the river had been in able and energetic hands, the running the gauntlet of the forts and torpedo-fields would have been a difficult and dangerous operation. But the collapse of the defence of the forts lower down the river was on a par with what had taken place under the eyes of the general in command higher up, and the whole French fleet got clear off with hardly any loss of men or damage to the ships. It appears that only a few torpedoes had been electrically laid, while the point for firing, being much exposed, had been abandoned, and the contact between the torpedoes and the cables had never been completed.

The one bright spot in this disgraceful fiasco was the gallant

fight made by a battery at the entrance of the river when attacked by a French ironclad, which attempted to force the passage the day after the destruction of the arsenal. This battery, known as the "white fort," was armed with four heavy Krupp guns, and being commanded by a different stamp of man to General Chang-Pie-Lung, beat off the *Galissonnière*, the gunners, according to an eye-witness, making excellent practice at a range of three miles. The *Times* correspondent, who witnessed the fight, says: "The Frenchman was entering when the Chinese opened fire, found the range at once, and hit nearly every time. They struck the ironclad badly twice, once very badly, when she retired. I could see her in the evening and next day with men overside busily engaged in repairing." The fact is, one shot penetrated just above the water-line. The forts being all constructed to meet an attack from seaward were easily enfiladed from above, hence the facility with which the French ships escaped from the very awkward trap in which they found themselves after the action. Still nothing was done by the Chinese. "There can be little doubt," observed the correspondent quoted above, "that if the French had had European, or Turk, or Arab, or Indian adversaries to deal with, not a Frenchman or vessel could have escaped from the Min."

Need we be surprised to hear that Chang-Pie-Lung's report of the affair "was greatly derided by the intelligent Chinese," or that a very bitter feeling was manifested towards the official representatives of the Imperial Government whose blundering incapacity had brought this disaster on the province? The rabble of Foochow became openly disloyal, and even insulted the native officials in the streets.

The horse having been stolen, or, in other words, the damage having all been done, the authorities, with characteristic foresight, proceeded to lock the stable door; that is to say, they repaired the forts, blocked the passes, leaving only a narrow passage for traffic, and torpedoed the Channel. They even erected new batteries, though these were spoken of as "mere playthings, their construction being regarded by the Chinese as a means of enriching dishonest officials by the falsifying of the accounts of their cost." From other sources we have facts which explain very clearly the causes of the utter collapse of the Chinese defences. Amongst the large purchases of war material made by the authorities was a consignment of 5,000,000 cartridges, manufactured at the time of the Franco-German war. "Of what use," said the paper re-

porting the fact, "the powder will be after fourteen years remains to be demonstrated." Again, we are told that "the shells fired from the Chinese forts were filled with dirt, and discharged by powder which was almost inexplusive. The cartridges are almost harmless, and very often will not fit the guns, notwithstanding that the full price has been paid for the genuine articles. The officials connected with the purchasing require enormous bribes." Evidently the British soldier is not the only one who suffers for the rascality of contractors. Another, writing from Foochow, says: "The passage of the Mingan Pass was to have been blocked by forty torpedoes, and it was officially stated to be so, but in reality only four had been moored, and these were fished up by the French. When, before the commencement of hostilities, a superior Chinese officer inspected the fortifications of the Min River, and the guns were to be tried, several of the cartridges missed fire. On examination it was found that, instead of powder, they contained salt." We have all heard of trying to put salt on a bird's tail, but he must have been a grim humourist who first thought of substituting salt for gunpowder in the economy of a Chinese fort. Verily, the celestial Tommy Atkins is heavily handicapped in his combats with the "barbarian." It is pleasant to record the fact, that the simple soldier who had thus sought to increase the emoluments of his office was at once committed to prison, and according to our correspondent "was awaiting sentence of death at the time of writing." The sad part of it all is that this mercenary commandant will be merely regarded by his compeers as a fool for having been caught.

What, it may be asked, was the effect of this, the first step in the series of "judicious reprisals" on the Peking authorities? Absolutely *nil*. If the French ever really anticipated any other result, they must have been woefully disappointed. Every competent person had declared from the outset that the only way to make any impression on the Imperial Government was to "go for" Peking, and further, that it would be as much use destroying forts and arsenals in remote provinces as it would be pricking an elephant's tail in the hope of killing it. The empire is so vast, while its political vitality is of such a low order that the loss of a limb or two scarcely affects the nerve centres whose duty in ordinary cases would be that of conveying the news on the instant to the seat of Government. The connection, indeed, between the various provinces is of so loose and indeterminate a character, that these may almost be said, in a sense, to lead a separate and distinct

existence, so far, at least, as the mass of the population are concerned. Their very language is almost different. So wide, indeed, is the divergence between the dialects of the Cantonese and Pekinese that they are mutually incomprehensible, and regard each other almost, if not quite, as they would a foreigner. Then, again, the antipathy between the northerners and southerners is so marked that there is no reason to be surprised under these circumstances at the stolid indifference with which bombardments and massacres in the Fokien province were regarded in the northern metropolis.

We sometimes talk of China as if it were France or Germany, whereas, to convey any correct notions of its vastness and the absence of homogeneity, it would be more correct to speak of it as a confederation of states with a central Government at Peking. The *Débats*, one of the very few, if not, indeed, the only one of the French journals which took a broad statesmanlike view of the war, stated the case with remarkable accuracy when it declared that "the bombardment of Foochow must have produced at Peking the same effect as a descent in the Middle Ages of the barbarians on the coast of Italy would have produced in Paris."

A correspondent, writing from Peking some months after the Foochow affair, said, "We are in almost complete ignorance of all that is going on at our doors. We hear of surprising victories won by the Chinese, and if we took the trouble to count up the French soldiers killed by the Chinese we should have figures proving France to be depopulated. . . . Unfortunately, official lying is so habitual here, that the mass of the Chinese have no suspicion of the successive defeats, the echo of which reaches us only after a long *détour* by way of Europe. The war is not much felt except by the provinces in which it is carried on, and there is so little sympathy between the different portions of the Empire that one province is indifferent to the sufferings of another."

That the sense of patriotism is not altogether extinct in Chinese official circles, in spite of assertions to the contrary, is evident from an instance of patriotic self-devotion which came to light after the war. It seems that while a truce was being observed by the respective combatants, pending the completion of certain negotiations for peace, a certain Chang-Chieh-Tung, Viceroy of the two Quang, addressed a secret memorial to the Throne, praying that he might be allowed to disregard the truce. He said he had good reason for believing that he could drive the enemy out of the country, or exterminate them, and was willing to make the

attempt. His great object, he declared, was to vindicate the Imperial honour, and show what the Chinese could do. In any case, whether he won or lost, he was willing after his return, in order to vindicate the unsullied name of the Imperial honour, to submit to any punishment the French should demand and the Throne be compelled to inflict, even though that punishment should be death.

Chang's offer was not accepted, and he was rebuked for making it. Chinese public opinion was almost unanimous in regarding the offer as an act of disinterested loyalty which was worthy of high admiration. "We think," said the *Standard*, "that not a few Englishmen will be of the same opinion."

The Foochow affair having failed completely, as was foretold, in bringing the Chinese to their knees, it became necessary to execute reprisal number two, which consisted in seizing, after infinite trouble and considerable loss of life, on two insignificant harbours in North Formosa and proclaiming a blockade of the island. The blockade was a farce; indeed, with the small force at the disposal of the French admiral, it was utterly impossible to maintain it, and reinforcements were being landed on the island by native vessels almost daily. The coal-mines, the *raison d'être* of Keelung—one of the ports seized—had been rendered useless to their possessors by the destruction of the pumping machinery and flooding of the mines by the Chinese previous to their surrender.

The Peking authorities by this time were becoming utterly callous regarding reprisals, and as the Celestial dragon was waxing slowly wrath, and showing symptoms of fight which had never been calculated on, the warlike operations of the French were brought to a close with the destruction of two frigates caught napping in the Sheipoo roads. China, in spite of official corruption, an undisciplined army, and a fleet that only ran away to avoid capture, was discovered to be anything but the *quantité négligeable* Parisian politicians were so fond of describing her. Peking, the centre of vitality of the empire, proved to be quite beyond the reach of reprisals, while, profiting by the hesitation of their enemy, the Chinese authorities entrusted with the defence of the approaches from the sea had made these so strong that the French never even ventured within sight of the forts.

Beyond dislocating trade, exasperating the Chinese, and causing widespread and needless suffering amongst unoffending natives, it is difficult to say what the French gained by their reprisals. At one time we heard a great deal about seizure of islands, large indemnities, and such like talk. We know now that French

claims eventually dwindled down to very small dimensions indeed—that, in fact, they were very glad to find a loophole of escape on honourable terms from a war which was as unnecessary as it proved barren of results. If any person was in a position to judge of the wisdom of the reprisals policy, it was surely the officer with whom was entrusted the duty of carrying it into effect. What, then, was Admiral Courbet's opinion on the matter? Fortunately, we are not left in the dark about it. Shortly after his death, which occurred while at the post of duty, a file of letters written to near relations, and extending over a period of two years, were placed in the hands of a newspaper editor, who promptly utilized them as a means of attack on the Government which had initiated the policy of reprisals. Writing after the bombardment of Foochow, the Admiral said: "You must be prepared to pay double taxes; the soldiers and treasure of France are about to be gradually sunk into a bottomless abyss; they are going to commit another piece of madness; they want me to go to Keelung; they want to take Formosa. . . . When will France succeed in grasping the fact that the lawyers who govern her are leading her to ruin? What are we here for? Our probable fate will be to succumb without glory, and we must be thankful if, in spite of our efforts, ungrudgingly lavished, France does not leave a shred of her honour in these seas." A more damning indictment of the reprisals policy it would be impossible to advance.

The moral to be drawn from this story of fruitless victories is obvious. First, the uselessness of attempting to bring China to terms by pinching her extremities. The Peking officials are too snugly ensconced in their stronghold of obstruction and obstinacy to listen to anything short of blows delivered at their own front door. Hence, to touch China in a really vital point, it is necessary to advance on the seat of vitality—Peking. Secondly, as regards the fighting power of the Empire, the lesson to be learnt is one which is none the less valuable because it is old. Briefly, it is the utter futility of dressing up in the skin of a lion, and sharpening the claws, without imbibing the courage and skill which distinguishes the king of beasts. China has been busy of late years adopting the war-paint of Western nations, and sharpening her claws after the most approved European methods. Of what avail this has been, those who run may read. Her statesmen have yet to learn that the possession of ironclads, rifled guns, and the paraphernalia of war obtained from the great military powers of Europe does not constitute an effective fleet or

army. Behind all this outward and visible show there must be an inward and spiritual grace, so to speak—the disinterested sense of duty and patriotism which makes the difference between an armed rabble and an army in the European sense. When these lessons have been taken to heart, and when Chinese reformers begin to work seriously in the right groove, the mind is almost staggered at the vastness of the fighting machine which the Empire is capable of producing.

At a time when rival theorists are dinning into our ears that England's hope of salvation lies in the number of battle-ships she can marshal into line on emergency, or in the speed of the cruisers she is building for the protection of her world-wide commerce, or in the last new thing in breech-loaders, it is something to be assured that the real secret of her strength lies in the training and discipline of her men—the human machine by which alone all this material of war can be effectively wielded; that, in fact, amidst the din of contending factions and the roar of conflicting opinions on every unsettled theory of warfare, there is something positive to lay hold of and to act on.



Smokeless Powders.

By CAPT. S. LEITH TOMKINS.



THE development of quick-firing guns and magazine rifles, for which ordinary gunpowder is unsuitable, will, in all probability, render the introduction of smokeless powder a matter of necessity, quite independently of any tactical advantage to be gained by its use. The smoke of gunpowder is chiefly produced by the solid residue remaining after explosion. Part of the residue is deposited in the fire-arm as a fused solid, causing the fouling which is so objectionable in rapid firing, and part is diffused through the gases and vapours liberated by the explosion, giving rise to the smoke hanging round the mouth of the gun. By getting rid of the fouling through the adoption of a smokeless powder, the smoke also is very considerably diminished. The solid residue of gunpowder after explosion amounts to over 50 per cent. of the total products; on the other hand, the explosion of the nitro-compounds, such as gun cotton, or nitro-cellulose, produces almost exclusively gases and water vapour, the solid residue being a mere trace.

Gun cotton has been perfected by Sir Fred. Abel, and is used extensively for mines and torpedoes, but it has not yet been adapted satisfactorily for use in guns and rifles, for which it is not sufficiently uniform in composition and regular in action, though great improvements have been made since it was first discovered. In the latest process cotton-waste is thoroughly cleaned and teased out, and then dipped in a mixture of one part by weight of nitric acid and three parts of sulphuric acid. The sulphuric acid takes no active part in the chemical change, but absorbs the water formed during the conversion of cellulose into nitro-cellulose, and so keeps the nitric acid up to its full strength. The nitro-cellulose is then carefully washed, pulped, and while still in the wet state is compressed into suitable discs one third of its original bulk, by hydraulic presses. It is, lastly, waterproofed by being dipped into a solution of gutta-percha or stearine in a volatile hydro-carbon,

if it is to be stored dry; if it is to be kept wet, *i.e.*, with 12 per cent. of water added, the last process is not necessary. The volatile spirit speedily evaporates and the separation of the particles of cotton by the gutta-percha or stearine in the interstices is found to be an advantage. It ignites at 300 F., gun-powder at 600 F.

Nearly all smokeless powders are practically gun cotton, with the addition of more or less of some nitrate salt, as potassium nitrate, barium nitrate, or ammonium nitrate. Sir Frederick Abel took out a patent in 1886 for the addition of ammonium nitrate to



FIG. I.

gun cotton, but it was not a success on account of its tendency to absorb water from the air.

One form of gun-cotton powder used at the recent manœuvres on the continent is simply gun cotton (nitro-cellulose) acted on by acetic ether or acetone, and reduced to a paste. The solvent is allowed to evaporate, and the sheets are left as a hard horny substance which is cut up into strips, and again cut up crosswise into grains of any size required.

The annexed sketch, Fig. I., shows such a specimen of smokeless powder :

No. 1 is a roll, looking like a thin sheet of brownish horn, as it leaves the rolling mill, where it has been flattened out under water.

No. 2, the powder ready for the cartridge, after it has been cut up into grains.

No. 3 is a specimen of Nöbel's explosive gelatine suitable for mines and torpedoes, which has not been rolled into sheets.

It is a property of nitro-cellulose to require a shock or jar at the moment of ignition to develop its explosive effect, and this is usually given by striking a percussion cap fixed to the cartridge. If, however, a strip is lighted by a match and not by the fulminating mercury of the percussion cap, it burns quietly without explosion, as shown in Fig. II.

Mr. Alfred Nöbel has invented a smokeless powder which has

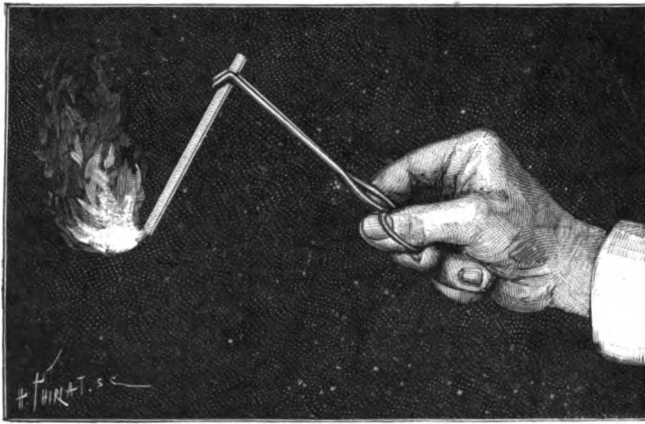


FIG. II.

been adopted by the Italian Government, in which he introduces nitro-glycerine. The composition is as follows:—

Nitro-glycerine	.	.	.	.	23·10	parts
Nitro-cellulose	.	.	.	.	23·10	„
Ammonium per-chloride	.	.	.	.	50·85	„
Camphor	.	.	.	.	3·45	„
					<hr/>	
					100·00	

Fig. III. shows specimens of this powder, with blocks and grains of the actual size. It is a very strong powder, but the large size of the grains makes the ignition slower than with fine grains, and reduces the pressure in the chamber below a dangerous point.

In 1887 the French tried a smokeless powder for their new Lebel rifle, which was known as Vielle's powder, or Poudre B. Picric acid is believed to have been mixed with the nitro-cellulose paste

described above, in its manufacture, but it was found to deteriorate rapidly, and last year they gave it up.

In 1889, the Germans introduced a smokeless powder which was a nitrated gun-cotton, or gun-cotton impregnated with potassium nitrate, but it is said that this too, like the French powder above mentioned, is unstable, and they are trying to find a better. Ammonium nitrate has been a favourite object for experiments on smokeless powder with many chemists, but its deliquescent properties cause great difficulties in its employment. Mr. F. Gaus recently claimed to have succeeded in making a useful powder free from the hygroscopic character of other ammonium nitrate mix-

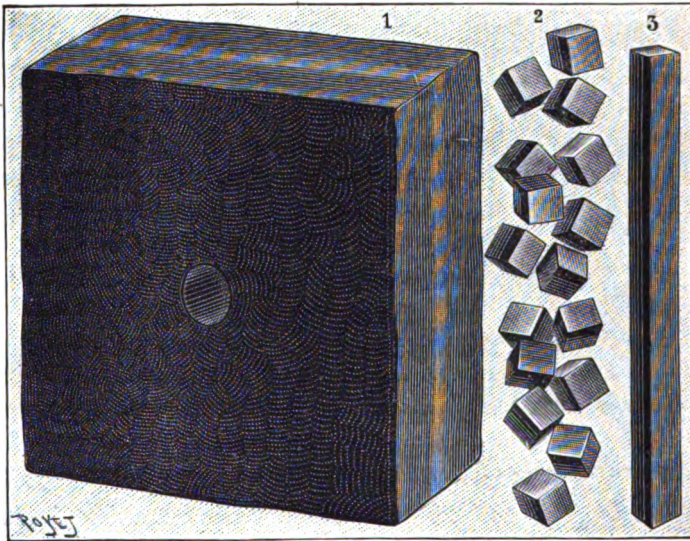


FIG. III.

tures, but preserving the advantage of only producing gaseous or volatile products, and he endeavoured to effect this by mixing potassium nitrate (saltpetre) and charcoal with it in certain proportions, but he has not met with the success he anticipated. Mr. Heidemann, the celebrated German powder-maker, has made an ammonium nitrate powder with good ballistic properties and but little smoke. The gas and water vapours produced are much larger in volume than with black or brown powder, and its ignition is much slower in action than in the latter, while the charge to produce the same propelling effect is less, the pressure in the chamber less, and along the chase of the gun the pressure is

greater. Unfortunately, as the hygroscopic condition of the air approaches saturation, it rapidly absorbs water, and, consequently, its use is greatly restricted.

In this country the two comparatively smokeless powders which are best known are the E. C. (Explosive Company's) powder and Schultze's; but numerous patents for smokeless powders have been taken out, although not one of them has as yet made a reputation. The analysis of one of the E. C. powders is as follows:—

Nitro-cellulose, soluble	21.79
„ insoluble	25.58
Cellulose, unconverted	4.17
Potassium and barium nitrates . .	38.32
Matters soluble in benzole	1.95
„ „ in alcohol	6.32
Moisture	1.87

100.00

It is in small rounded granules.

Schultze's powder is cellulose from wood fibre (sawdust), converted into nitro-cellulose by dipping it into a mixture of nitric and sulphuric acids; then it is washed, finely ground, impregnated with potassium nitrate (saltpetre), and afterwards waterproofed. In both the E. C. and Schultze's powders the strain on the breech of the gun is greater than in gun-powder, and the action is somewhat irregular. Schultze claims that no corrosion is caused by his powder, as the residue is alkaline and dry.

Johnson's powders are composed as follows:—

	For Military Arms.	Sporting Powder.
Nitro-cellulose	50 parts	50 parts.
Potassium nitrate	40 „	22 „
Barium nitrate	— „	25 „
Torrefied starch or lamp-black	10 „	3 „
	<hr/> 100 „	<hr/> 100 „

The whole question is under consideration by the Explosives Committee, to whom it was referred by our Government, and in the meantime the new Lee-Metford cartridge is made of a compressed pellet, of a particular description of black powder (potassium nitrate, charcoal, and sulphur).

Picric acid has been mentioned in connection with the Lebel

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rifle and Vielle's powder, but some years ago Sir Frederick Abel introduced a picric powder, which was a mixture of ammonium picrate and potassium nitrate, of a bright yellow colour, more powerful than gunpowder, and which was tried for shell-charges, but it came to nothing. Quite recently, however, a French chemist, M. Eugène Turpin, of Paris, has discovered that picric acid alone, when fired by a detonator of sufficient power, produces a violent explosion, and that no oxidizing substance like a chlorate, nitrate, or chromate is required. Accidents have happened from the admixture of some of these substances, but by itself picric acid is singularly stable, not subject to spontaneous decomposition, liquefaction, or other physical change, very safe to handle, and of greater power than dynamite. So insensible is it, that when placed in a shell it is unaffected by the shock of discharge from a gun. Priming is effected by 1.5 grams of fulminate of mercury, or by a charge of ordinary quick-burning powder in a tube. Picric acid is believed to be the famous melinite, but it is too violent for guns and rifles.

Lydite, another of the new explosives now being experimented upon by our Government, is much like melinite. Cotton-powder or tonite, used for torpedoes, is gun-cotton impregnated with potassium nitrate.

Many attempts have been made to utilize potassium chlorate, on account of its violently oxidizing properties, but as yet they have been unsuccessful. The original white or German gunpowder, made by Reveley, was a mixture of sugar and potassium ferro-cyanide with the chlorate. Other mixtures have been made with tannin, powdered nutgalls, and with cream of tartar, but these also have not succeeded. The latest attempt has been made by M. Turpin, who proposes the following mixtures, which may be granulated like ordinary powder, but they are too recently made to have been fairly tried.

Potassium chlorate	. 80 parts	. 40 parts.
Coal tar . . .	. 15 „	. 16 „
Wood charcoal . .	. 5 „	. 4 „
Potassium nitrate	. — „	. 40 „
	—	—
	100 „	100 „

A thoroughly satisfactory smokeless powder of the required stability has yet to be found, but it is fully expected that before long such a powder will be secured.

Naval Warfare:

ITS PRINCIPLES AND PRACTICE HISTORICALLY TREATED.

By REAR-ADMIRAL P. H. COLOMB.

CHAPTER XVIII.

THE CONDITIONS UNDER WHICH ATTACKS ON TERRITORY FROM THE SEA SUCCEED OR FAIL—(*concluded*).

The expedition of Napoleon to Egypt as an instance of incorrect strategy.—The invasion of the Crimea in a sense analogous.—The capture of Bomarsund conducted in full accord with all the rules of naval warfare.—Long series of bombardments commencing with Algiers.—Syrian coast towns and Acre.—Odessa.—Employment of steam and sail on precisely the same duty and in the same way.—Sveaborg, a continuation of the old methods.—Bombardments by the Chilians of Peruvian coast towns.—The Angamos.—Long-range bombardments less novel than they seem; chief change from mortar to gun.—Sfax; range of bombardment still extended.—Alexandria; ranges governed by geographical conditions.—Former lessons not disturbed.—Charleston, and the four attacks upon it; two against rule and unsuccessful, two in accordance with rule and successful.—Other attacks on territory by the Federals.—The French fleet in the Baltic in 1870; remarkable prevalence of law.—Nothing to show that the old rules of war have changed.



THOSE who have described the incidents which together make up the story of Napoleon's expedition to Egypt, have seldom withdrawn themselves far enough from the details of the narrative to observe that, from beginning to end, the results were governed by law. That law, preceding chapters have given us pretty ample means to comprehend, and if we rightly exercise our faculties we shall have no difficulty in pronouncing that Napoleon wrongly set about his work. How far the whole scheme was visionary, and whether, supposing all had succeeded to his wish in Egypt, it would really have been possible to strike at India from that position, we need not argue. Our point is that Napoleon in his conduct of the expedition was false to rule, and deserved even worse than the loss of a fleet and an army which attended his misconception.

No doubt the conditions under which the expedition was prepared were tempting. In December 1796 Sir John Jervis had been forced out of the Mediterranean by the junction of the French and Spanish fleets, making up 38 sail of the line against Sir John's 15, and no attempt had been made to re-enter it. In February 1797 the Spanish fleet, sailing from Cartagena to Cadiz, had been 27 sail of the line strong; 25 of these felt the weight of Jervis's arm on the celebrated Valentine's day, but his fleet was still but 15 sail of the line, a reinforcement from England having been discounted by an equal number of casualties. But the battle of St. Vincent left the Spanish fleet at Cadiz still 28 sail of the line in May, watched by St. Vincent with only 21.

The French fleet of 12 sail of the line remained intact at Toulon, and there were from 12 to 15 sail of the line at Brest.

The Dutch fleet which had encountered Duncan at Camperdown in October 1797 had been 15 sail of the line, was thus reduced to 6 only.

The opening of the year 1798 therefore found some 60 sail of the line of the old stock, disposed in four of the enemy's ports, while general belief in France magnified the possible additions. England was troubled with alarms of invasion either of Ireland, Scotland, or the south coast of England. It was probably this fear which dictated the retention of such a large proportion of the ships at home, and continued the policy of abandoning the Mediterranean to the French at Toulon. The Channel fleet in the early part of the year 1798 was nominally 47 sail of the line, but some 18 of them do not appear to have acted at all in home waters unless they were held in reserve at anchor. In April there were only 17 ships of the nominal Channel fleet at sea, 6 under Sir R. Curtis off the coast of Ireland, and 10 under Lord Bridport at Brest, while one was on detached service with Warren off the French coast. At the same time, St. Vincent only had about 23 sail with him to watch Cadiz.

In the North Sea there was a British fleet of nominally 19 sail; while the needs of a maritime empire absorbed some 10 sail of the line in convoy duties, 16 in the west and 11 at the Cape of Good Hope and in the East Indies. Nominally, we had 118 sail of the line (including 50-gun ships) in commission in the early part of 1798, but it does not seem that anything like that number were available at a given moment.

Under such conditions as these, there was really little to lead the French Government to anticipate interference with their pro-

ceedings in the Mediterranean, and there was a certain foundation for Napoleon's belief that fear of attack in India would make it necessary for England to detach additional line-of-battle force thither, thus making Mediterranean operations still more secure from interference by sea.

The assemblage of the force at Toulon was known to the English Government, yet the pressure on her naval resources was so great that it was not till the 30th of April 1798 that Nelson, with 3 sail of the line, 2 frigates, and a sloop, could be detached into the Mediterranean. As there were now 13 sail of the line at Toulon, the dispatch of Nelson's force was really offering it as a sacrifice. But, as is well known, Nelson was prevented from reconnoitring Toulon by a gale which met him and dismasted his flag-ship on May 22nd, three days before the French expedition, consisting of 13 sail of the line and 59 other war-ships, with 400 transports carrying 36,000 men, sailed from Toulon and Genoa for Egypt.

Nelson was not able to reach his rendezvous off Toulon till the 31st May, and by that time had learnt that the French fleet was at sea. Had the English Government not detached 8 sail of the line to reinforce St. Vincent, it is evident that Nelson must simply have returned to Cadiz. But his hopes of a reinforcement kept him in the Toulon rendezvous, and he was joined there, on June 7th, by 11 sail of the line under Troubridge, making his fleet up to 14, or rather superior in number to the French. He was then able to proceed in search of them.

It is not necessary to tell again here the well-known story of the pursuit, and the Battle of the Nile. It is only desirable to mention the one point which has not been as much noticed as it deserves, namely, that Nelson, on June 22nd, at daylight, actually saw off Cape Passaro two French frigates, part of Napoleon's force, and that a line-of-battle ship was also seen by some of the ships. The ships seen were chased by the *Leander*, and if Nelson had not at the moment received information from a merchant ship which led him to recall the *Leander*, there can be no doubt that he would have met and destroyed the whole expedition at sea.*

The ultimate result of this great invasion is well known. The fleet accompanying it was destroyed on the 1st August, and the army, after holding Egypt, but being so cut off from France that efforts were vain to supply and reinforce it, finally surrendered in 1801. It has sometimes been argued that the results of the

* *Nelson Dispatches*, vol. iii., p. 43.

Egyptian expedition were worth the sacrifice, but such a view is not generally held, and it seems difficult to believe that it was anything but a gigantic failure.

Had the prospects been much better than they were, the conduct of the expedition was contrary to the plain rules of naval war. Before it started, steps should have been taken to prevent interference by sea, by masking or employing St. Vincent's fleet. If he was left in a position to detach a force equal to the French, the risks were altogether too great to have justified the despatch of the expedition. There was really no object in taking the line-of-battle ships to Egypt, and the exceedingly narrow chance by which a battle at sea was missed on 22nd of June exhibits the danger in a striking light. Had the French line-of-battle ships remained at Toulon, it seems unlikely that Napoleon's expedition could have been interfered with at all, for Nelson could not have turned his back on them in view of the dangers of their junction with the Spanish fleet at Cadiz. But had Brueys in the first instance pushed for this junction, it remains possible that no attempt would have been made by England to recover the command of the Mediterranean, owing to the large force which it would have been necessary to place off Cadiz. The loss of the French fleet at the battle of the Nile was primarily due to false strategy; and if the French were not strong enough to mask the English fleet, they were courting defeat by employing invasion.

Thus the expedition to Egypt was "an adventure," carried out, not in the cool deliberation which wins and holds success, but in a burst of Republican enthusiasm which would not stop to calculate chances. It failed, either because it was not properly conducted, or because it ought never to have been undertaken.

There is a slight analogy between the French expedition to Egypt and the Anglo-French expedition to the Crimea. Kinglake has stigmatized it as "an adventure" also, and there is no doubt that in disobedience to the strict rules of naval war risks were run which were entirely unnecessary.* The chief breach of rule was the omission to mask the Russian ships at Sevastopol by a sufficient force, and thereby leaving the crowded transports open to devastation by a determined onset. There is no doubt but that the risk was known and felt at the time; but a general absence of understanding that there always had been, and always would be, rule in these matters, placed the whole of the naval defending

* *The Invasion of the Crimea*, vol. ii., p. 145.

force with the transports, rather than in watch upon the only force of the enemy which could interfere with it.* The justification for breach of rule was the great disproportion which existed between the defending British fleet with the transports, and the possible attacking force at Sevastopol; and rule was yielded to so far as to keep this British fleet entirely clear of troops and ready for action.†

Then, in the invasion itself, risks were run which were not necessary, and which even more justified the stigma of "an adventure." We have seen throughout these chapters that, assuming a command of the sea, suitable ports can always be captured and held on an enemy's coast, and that from them any sort of military expeditions can penetrate inland, resting on the absolutely secure base which the sea, being commanded, gives them. The secure course, the course according to rule, when it was determined to invade the Crimea, was to secure a port in the first instance—Kazatch or Balaklava—and then to operate inland from that base. This, which was afterwards found to be the necessity, should have been, according to experience, the preliminary. In omitting it, the most desperate and wholly unnecessary risks were run.

Probably there never was an operation so splendidly conducted as the disembarkation of the British troops on the beach at Old Fort on the 14th of September 1854, yet these were the conditions—

At 7 A.M., when the operations commenced, the water was smooth as glass; no enemy appeared to oppose the landing. As the ships were taking up position, only one Russian officer, with his mounted orderly, appeared on the beach, and remained beside his horse for a considerable time, apparently occupied with his note-book, as though he were dotting down our proceedings, certainly neither contemplating a descent upon his shores nor a departure from the rules of chivalry in the receipt of a warning shot. Suddenly our design seemed to burst upon his mind, and he beat a very hasty retreat, narrowly escaping capture, for the landing of the French troops further to the eastward had not been noticed.

* A watch was, however, kept upon Sevastopol by a frigate.

† "It was upon the English fleet, therefore, that the duty of protecting the whole armada devolved; and supposing that the enemy were aware of the helpless state of the French and Turkish vessels laden with troops, and of the enormous convoy of transports which had to be protected, he might be expected to judge that it was incumbent upon him to come out of the harbour and assail the vast flotilla of transports; for under the guns of Sevastopol the Russians had 15 sailing ships of the line, with some frigates and brigs, and also 12 war steamers, though of these the *Vladimir* was the only powerful vessel. To encounter this force, and to defend from its enterprises the rest of the armada, the English had 10 sail of the line (including 2 screw-steamers), 2 50-gun frigates, and 13 steamers of war heavily armed. . . . None of our ships of war carried troops on board; they were, therefore, ready for action."—Kinglake, vol. ii., p. 145.

By 6 P.M., 30,000 infantry and 24 guns, or 4 complete batteries, were landed; but sunset came upon us with a louring sky and a threatening swell breaking on the beach. a sure indication of approaching wind, rendering the disembarkation of artillery more and more tedious and difficult. At nightfall the weather was so bad, and sea heavy, that the difficult operation had to be suspended. The troops had landed with three days' provisions in their haversacks, but without tents or camp equipage of any kind. Thus was that gallant army exposed for two days and nights on a hostile shore, with no water except what fell from the heavens, not half its artillery, no shelter, and in the vicinity of a powerful enemy.*

It is terrible to think what the result might have been had the whole Russian force, close to at the Alma, marched upon the British by night when the cover of the ships' fire could not have been available. Looking back, it is plain what the risk was, and how unnecessary it was; it seems hardly possible that had the then authorities possessed any clear knowledge of the principles of naval warfare, a British army would ever have been placed in such jeopardy.

A month before this "adventure," all the principles which had for a century and a half governed the successful attacks upon territory were put in force in connection with the capture of Bomarsund, the Russian citadel of the Aland Islands in the Baltic.

We have first the Anglo-French fleets in command of the Baltic Sea, and controlling therefore the waters which surrounded Bomarsund. The forts were four in number. The chief, facing a narrow channel between the islands, was a stone fort, semicircular in shape, mounting upwards of 80 guns, in two tiers, on the sea-faces, and said to be equally strong on the land face. A thousand yards north of the main fort, and the same distance west of it, were circular forts each capable of mounting 36 to 40 guns, but of course incapable of concentrating any large proportion of them on one spot. There was another circular fort across the channel, and 1,000 yards distant from the main fort, and, lastly, a 5-gun battery 1,700 yards S.S.W. of the main fort, which guarded the approach by sea from the southward. Although it is stated that the main fort was equally strong on the land and sea sides, it seems clear that the older principles of fortification were here departed from, and that there was no main citadel, stored and arranged so that a garrison might hold out for a considerable time, however attacked. The design of the works seemed somewhat Chinese in character, and contemplated attack upon the sea face only.

From the moment that the Allies determined to attack Bomar-

* Captain (now Admiral Sir William) Mends, in *Journal R.U.S.I.*, vol. vi., p. 397.

English landing place 1 1/4 miles N.E.

Hecla
Cocyte
LEOPARD

English Battery

Noddy's
North Fort

French Battery

Telegraph
H.E.

Presto Fort

PRESTO

Site of West Fort

These Forts were destroyed in
BOMARSUND 1854

building

Admiral
Panama
Battery

French landing place

Blenheim
Battery

Penelope R.

Darien

Ascham

Hecla

Valorous Amphion

Flagship Driver

R.

Edinburgh

Butt

Aja

Arrogant

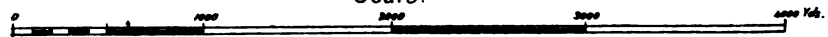
MICHELSON

One Tree L.

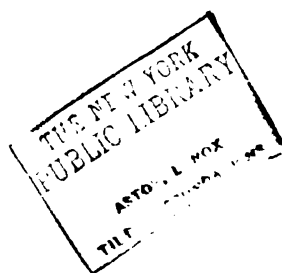
Butt

BOMBARDMENT OF BOMARSUND.

Scale.



English Ships French Ships



sund, it was decided that the navy was to play its old secondary part, and that 10,000 troops were to be employed against a garrison of about one-third of this strength.

The next point of arrangement was the assumed command of the sea, and the anxiety on this head is not a little remarkable, seeing the overwhelming superiority which steam had given to the Allies.*

Thus Sir Charles Napier writes to Sir James Graham, on July 10th, 1854, *apropos* of the intended attack—

I shall take care to be on my guard against the Russians from Cronstadt. If they come down, so much the better.†

The naval force told off to support the attack on Bomarsund was but 4 steam line-of-battle ships, with a few steam frigates and smaller vessels; while Commodore Martin watched the Russian fleet with 9 sail of the line, mostly steam; and the bulk of the allied fleet was concentrated at Ledsund to support Commodore Martin in the exceedingly remote possibility that an inferior fleet of sailing line-of-battle ships would dare to face, at sea, a superior fleet chiefly moved by steam. Yet the contingency was always present, and provided against. Sir James Graham wrote to Sir Charles Napier that :

His block ships, screw frigates, some of his steamers, and a portion of the French squadron would be strong enough to invest Bomarsund, as there was no naval force except gun-boats opposed to him; and that after detaching these, he and the French admiral would have 20 sail of the line at the neck of the Gulf of Finland to keep the Russian fleet sealed up.‡

As for preventing the junction of the Cronstadt and Sweaborg fleets, if they wished it, this, said the Admiral to the First Lord, was utterly impossible, without remaining off there with the whole fleet, and leaving the French admiral and general to themselves at Bomarsund, which Sir James could never have contemplated. Commodore Martin had 2 steam frigates and three paddle steamers in advance of him, and he would give timely notice should the Russians break ground. This, continued the Admiral, is the best disposition I could make, and I hope all will go right.§

Napier thought the number of troops to be sent was excessive; he thought 5,000 quite sufficient, as it was not intended to hold Bomarsund through the winter. He wrote again :—

The Gulf of Finland was well guarded by Commodore Martin, and he (the Admiral) had taken steps to act, should the Russian fleet attempt to disurb the operations going on.||

* The English fleet alone consisted of 18 sail of the line, of which 12 were steam; 5 steam frigates, 14 steam corvettes, and 4 steam sloops. The Russians had not a single steam line-of-battleship and very few—about 9—steamers of any kind.

† *History of the Baltic Campaign of 1854*, edited by G. Butler Earp, p. 289.

‡ Earp, p. 318.

§ *Ibid.*, p. 321.

|| *Ibid.*, p. 327.

The reason why the large ships were not brought up to the fortress was the evident one that they might be wanted to meet the Russian fleet, should an attempt be made by the enemy to raise the siege. . . .

The French admiral thought of taking the greater part of his large ships to Bomarsund, to keep the troops and ships together.

This arrangement rendered it imperative on Sir Charles to keep his large ships in readiness for any attempt on the part of the Russians. He had been strictly enjoined by Sir James Graham not to leave the Gulf at all, and when Sir James found that the bulk of the fleet was at Ledsund, he expressed his fears lest the Russians might succeed in getting out.*

On the 5th (August) the Admiral expressed his fears to Admiral Parseval (Deschenes, the French Admiral) that the force at Ledsund was being reduced too low, should the Russian fleet attempt to disturb that of the Allies.†

These various extracts from a book written in defence and under the inspiration of Sir Charles Napier, are a very ample proof that steam had in no way touched the great principles which govern territorial attacks. We shall see, before we close this chapter, that according to the very latest experience they remain intact.

There is no need to describe the attack on Bomarsund. We have had the picture of it over and over again in the successes described in the preceding chapters. It happened that the most convenient landing-place for the French was covered by some of the guns of the 5-gun battery, and these were accordingly silenced by an overpowering bombardment from the ships. The English landing was clear of all opposition. Batteries were then erected to play upon the forts. Fire was opened first on the west circular fort on the 13th August, and it surrendered on the 14th to the French battery at 600 yards. The English battery opened on the north circular fort on the 15th at 950 yards, and by the afternoon it was untenable and surrendered. The main fort had been well shelled by the ships on the 15th, and was about to be proceeded against by the shore batteries on the 16th, when it sent out a flag of truce and surrendered, followed soon after by the last circular fort across the water.

A long series of operations of a particular class—bombardments—is ushered in by that of Algiers. I shall touch upon it, and then make a few observations on the similar attacks which were carried out on Acre, Odessa, Sweaborg, Sfax, the coast towns in Peru, and Alexandria. Of these operations, all, it must be remembered, were carried out by naval Powers in command of the sea, thus continuing the old rule; while only Acre and Sfax are cases where bombardment was other than a destructive and punitive

* Earp, p. 332.

† *Ibid.*, p. 359.

operation. It is again worthy of observation that the bombardment of Algiers, Acre, and other Syrian coast towns, Sfax and Alexandria, were conducted against enemies admittedly inferior in every respect, whether moral or material. The attack upon Sweaborg again was made, not by regular men-of-war, but by special gun and mortar boats, the latter differing in no essential point from those which the British had all along so freely used against the Channel ports of France.

The sea front of Algiers, extending nearly north and south, possessed a nominally terrific offensive power. A line of connected works three quarters of a mile long, closed the sea face of the town, and for half a mile or so on each side of this, a series of detached batteries fringed the shore, backed by heavier works inland. From a point near the north end of the sea face of the town, a mole in the form of a T extended 400 yards from the shore, and spread to right and left in arms parallel to the beach, and extending 600 yards. The southern arm formed the harbour, within which the Algerian fleet of a dozen frigates, corvettes, and brigs were closely packed.

The sea-face of the mole carried works—in three cases of three tiers—which mounted some 200 guns, a few of exceptionally large calibre, besides mortars; while the shore line of batteries showed over 250 guns along their fronts. But the whole system of fortification had this weakness, that there was deep water close up to the mole, and that ships brought against it at close quarters had little or nothing to contend against except the fire from the mole itself.*

But still the force set apart for the bombardment was small enough to show that the British Government, and presumably Lord Exmouth and his officers, did not believe that the actual strength of Algiers nearly approached its nominal appearance. It consisted of six sail of the line, two 40-gun, and two 36-gun frigates, five 18 and 10-gun corvettes and sloops, and four bomb-vessels; the ships showing a broadside of 344 guns, besides the mortars.

This force left Plymouth on the 28th of July, and was ready to leave Gibraltar on the 12th of August, joined by five Dutch frigates and a corvette, showing a broadside of 84 guns. The works had all been closely reconnoitred, and every captain in the fleet had been furnished with a plan of them and his appointed anchorage.

* *The Life of Admiral Viscount Exmouth*, by Edward Osler (Appendix). James says there might have been 1,000 guns in all.

On the morning of the 27th of August the whole fleet was in sight of the place, and certain terms of submission were submitted to the Dey. This potentate, not seeing fit to respond to the message, the flag-ship of Lord Exmouth, the *Queen Charlotte*, led in, and anchored with springs on her cable, 50 yards only from the southern head of the mole. The other ships ranged themselves as nearly as possible in their assigned positions north and south of her, and in very close order, so that the strength of the fire was upon the mole itself. The Dutch formed the extreme south of the line, and the bomb-vessels lay 2,000 yards outside.

The conduct of the Algerines as the ships approached was a proof to Lord Exmouth that the difference between their moral and material force was quite as great as it had been estimated. Not a gun was fired from the shore until the *Queen Charlotte* was seen to be quietly lashing herself to the main-mast of an Algerine brig fast to the shore. At the time the mole was crowded in front of the works by a gazing crowd of two or three hundred people, to whom Lord Exmouth personally signalled to move out of the way of the broadsides immediately to follow. Not till then were three guns fired at the ships, replied to first by the whole power of the 100-gun three-decker, and then of every other ship as fast as the guns would bear.

It was towards three o'clock in the afternoon that the action begun, and in smoke and confusion was continued until 10 P.M. The *Queen Charlotte* then cut her cables and put to sea, followed by the remaining ships; and by two o'clock on the morning of the 28th every ship was out, and the bombardment of Algiers was over.

Besides the regular men-of-war and bomb-vessels engaged, a numerous flotilla of ships' and other boats firing rockets and guns were employed between the ships, and at a little after 9 P.M. an explosion vessel, charged with 143 barrels of gunpowder, was run ashore and blown up on the north end of the mole.

The fire of the *Queen Charlotte* brought down the whole of the batteries on the south end of the mole in three broadsides, exposing the vessels in the harbour to destruction, and leaving the works behind the mole open to the storm of shot. The shipping was burnt; the upper tiers of guns on the mole and many of the town works were silenced, and the town was on fire in several places; but it does not appear that the ships—even if they had not exhausted all their ammunition, which they had—could have remained in position. The amount of ammunition fired away by the ships was tremendous, amounting for the 6 line-of-battle



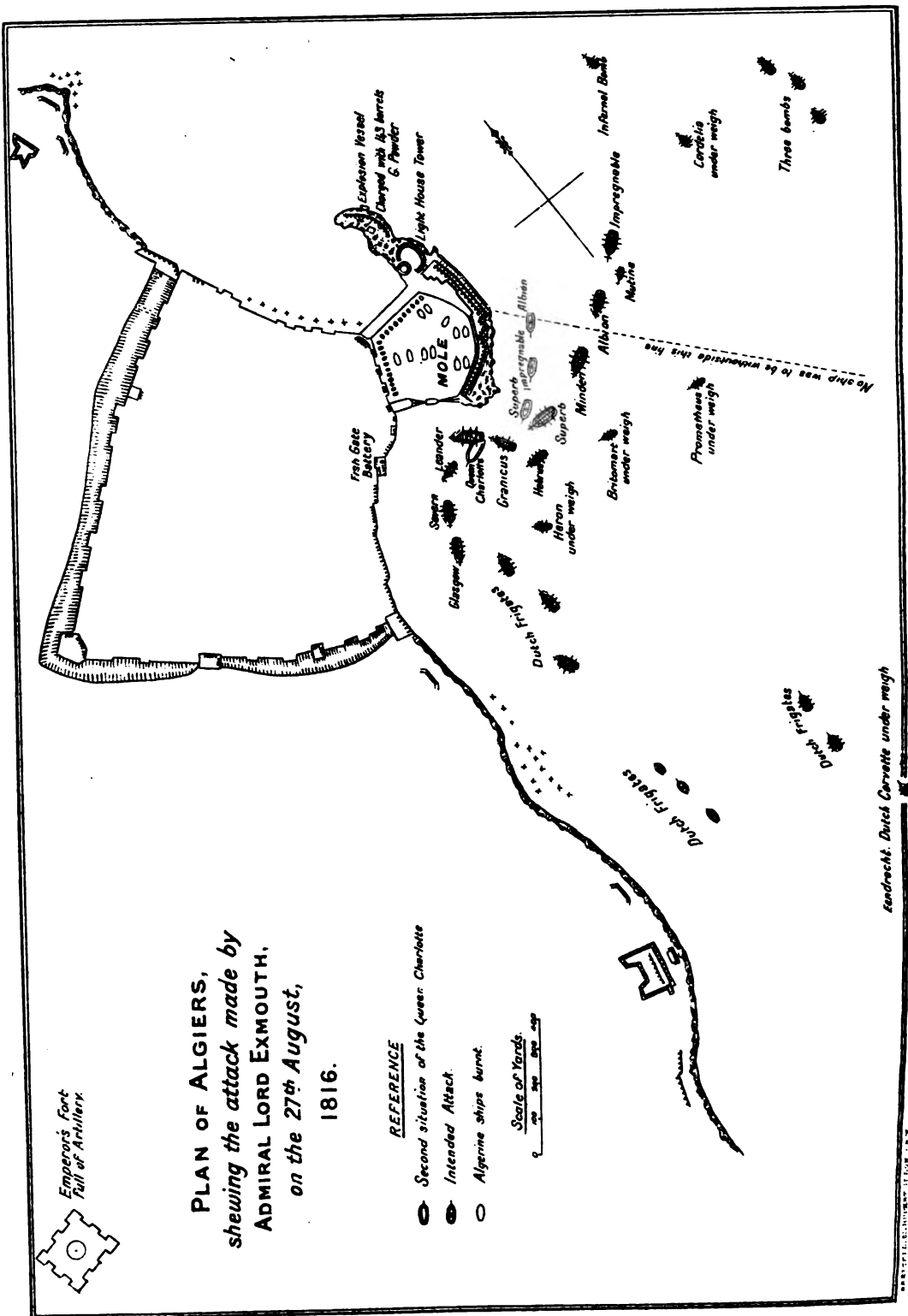
Emperor's Fort
Full of Artillery

PLAN OF ALGIERS, shewing the attack made by ADMIRAL LORD EXMOUTH, on the 27th August, 1816.

REFERENCE

- Second situation of the Queen Charlotte
- Intended Attack.
- Algerine ships burnt.

Scale of Yards.
0 100 200 300 400 500



Landrocht. Dutch Corvette under weigh

ships and 4 frigates to over 39,000 rounds, while the Dutch are reported to have fired over 10,000 rounds, the total weight of round shot being estimated at 500 tons.* The loss of life and limb in the ships was heavy, amounting between Dutch and English to 141 killed and 742 wounded. One of the ships, the *Impregnable*, is stated to have received 233 shots in her hull, and she lost 210 in killed and wounded.†

The operations against the coast of Syria in 1840, which involved bombardments by ships of Beyrout, Djebail, and Sidon, and culminated in that of Acre, took place under somewhat exceptional circumstances. But the rule of war was not neglected which required the masking of any naval force which could by possibility interfere by sea. Such naval force as Mehemet Ali possessed, was closely watched by a British force off Alexandria during the whole time that hostilities lasted. Again, though bombardment was freely used, the country was not an enemy's country, for the towns bombarded and captured were friendly Turkish possessions, temporarily in the hands of hostile Egyptian garrisons. The object was to drive these garrisons out of Syria, and Turkish troops already possessing more or less hold on the land, co-operated with troops landed from the sea, in the general scheme of operations. What lessons may be drawn from these coast attacks must therefore be modified by these special considerations as well as by our knowledge that there was considerable difference in all cases between the nominal and the actual strength of the places attacked.

Beyrout was partially bombarded by the ships, while a large Turkish and British land force lay in the vicinity. It was not a place capable of much resistance, and it was hoped that the Egyptian garrison would withdraw to save effusion of blood. The Governor declining, the forts were again bombarded on September 11th, but still without result. But it was afterwards evacuated in consequence of the movements of the Turkish troops in its rear. Djebail was a small fortress, and was bombarded to cover the attack by a storming party landed from the *Carysfort*, *Dido*, and *Cyclops* steamer. The immediate attack failed, but the place was evacuated the same night.

* Nine hundred and sixty-six 13 and 10 inch shells were thrown in by the bomb-vessels.

† See *Narrative of the Expedition to Algiers in the Year 1816*, by A. Salamé; James, vol. vi., p. 569; *Life of Admiral Viscount Exmouth*, by Edward Osler, p. 294.

The capture of Sidon was effected on the 27th September by the fire of an 84-gun ship, the *Thunderer*, an Austrian frigate, a Turkish corvette, and a sloop, together with four steamers, the *Cyclops*, *Gorgon*, *Stromboli*, and *Hydra*, covering the landing of a sufficient body of troops. The business was quickly done, and the garrison of 8,000 men submitted to the force of 1,000 men landed against them, the loss of the attacking party being but 35 in killed and wounded.

The capture of Acre was on the principle of the capture of Sidon, or, farther back, of the capture of Porto Bello. The belief, which turned out to be well founded, was, that if the ships could be brought sufficiently close to the walls, the fire might be subdued to a point permitting of the landing the British artillery and engineers, together with a division of Turkish infantry, which was held to be sufficient force to overcome an Egyptian garrison said to number 5,000 men.

The plate, which is copied from that in Yonge's *Naval History*,* sufficiently illustrates the nature of the attack. The ships took up their positions in the early part of the 4th November 1840, and fire was opened on the works about two o'clock in the afternoon, and continued till near dark. The garrison at first replied with vigour, but with small effect, owing to the badness of the aim. But in a couple of hours one of the principal powder magazines, which was at the back of the town, exploded with most destructive effect, two whole regiments under arms being cut off. The garrison was paralysed by the accident. The fire slackened, and in half an hour ceased altogether. The Egyptians evacuated the place in the night, which was occupied by the British and Turks next morning. None of the ships were materially damaged; and the loss in killed and wounded did not exceed 60 men.†

The attack on Algiers and the operations against the Syrian coast towns exhibit signs of transition in the material of war. Congreve rockets, which we had not before heard of at sea, were used against Algiers; and on the coast of Syria, steam was doing its part. But it is well to note that here, as later, steam and sail were employed indifferently on the same work. We are so far from observing any change in the method because of steam, and because few heavy shell guns, in the case of the *Vesuvius*, *Gorgon*, *Stromboli*, and *Phoenix*, had taken the place of many light guns

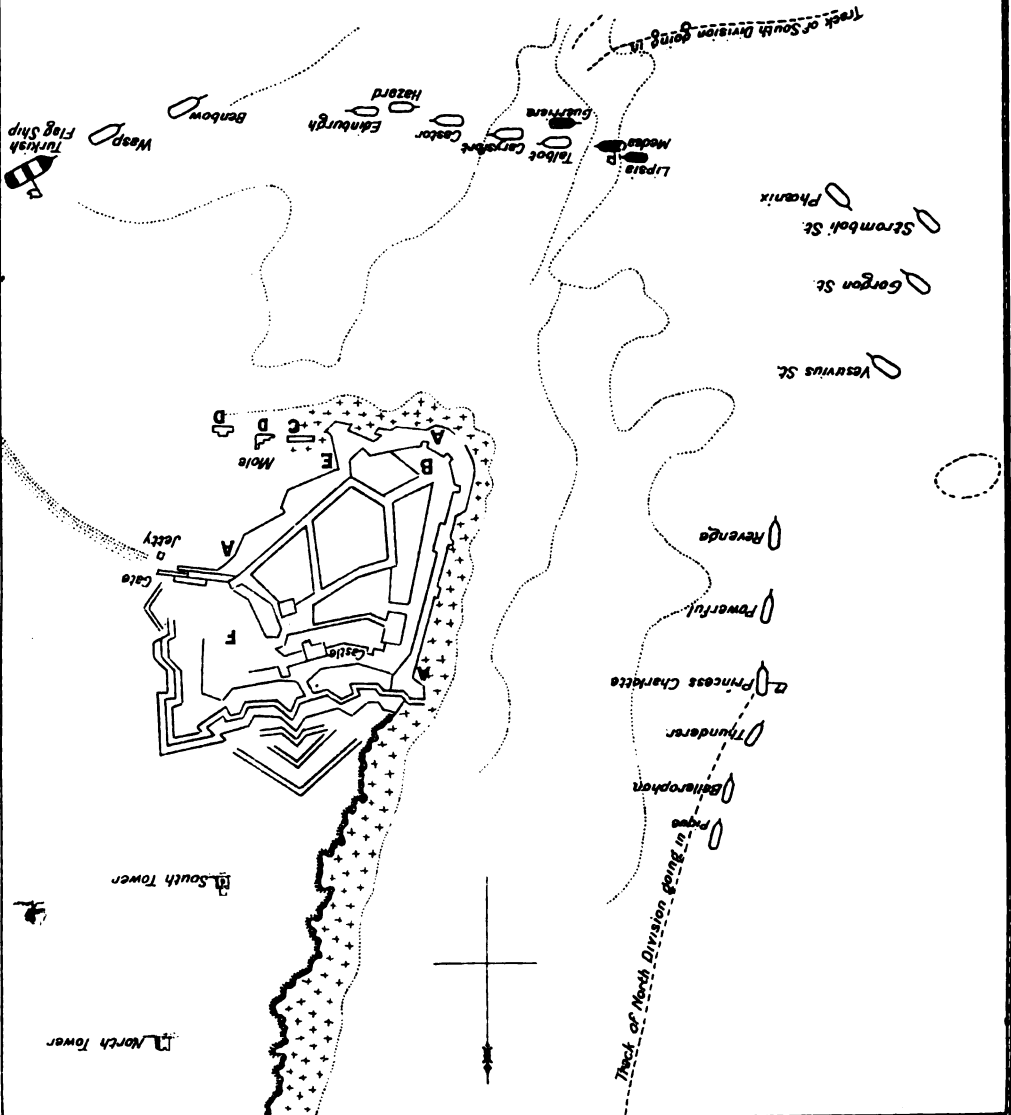
* The plate of Bomarsund is from the same source.

† *The War in Syria*, by Commodore Sir Charles Napier, K.C.B., vol. i., p. 196; Yonge's *Naval History*, vol. ii., p. 532.



ACRE.

- | | | |
|--------|--------------------------------|---------------|
| A.A.A. | Wall 25 feet high | English Ships |
| B. | Cavalier Fort. | |
| C. | Ancient Mole | |
| D.D. | Ruins of Ancient Forts. | |
| E | See Gate | |
| F | Position of exploded magazine. | |



in the frigates and line-of-battle ships, that the sailing ships have the inshore and the steamships the offshore position. Only the advantage of more perfect locomotion is taken advantage of when Sir Robert Stopford, the British Commander-in-Chief, transfers his flag from the *Princess Charlotte* three-decker to a steamer.

Hence our chief observation must be that there is not, up to 1840, any sign of a change either in the principles of strategy or of tactics in the attack from the sea upon territory.

We therefore pass to the next prominent attack upon territory from the sea, the bombardment of the forts of Odessa on the 22nd of April 1854. The object of the demonstration, for it was not really more, was punitive, and yet care was taken that it should not be so. Odessa had, a few days earlier, fired on a flag of truce, and 4 British with 3 French steamers were detailed to inflict a certain amount of chastisement, not on the town or its ships, but on the forts defending the town, Government ships, and Government stores. The ships attacking naturally kept under weigh, as the force was not nearly sufficient to settle down to the work as at Algiers, and while this limited the damage to the ships—although the *Vauban*, one of the French steamers was compelled to withdraw—it limited the damage done on shore. Gun-boats with rockets afterwards assisted in the bombardment, but as if to emphasize how little in real fact steam had altered the processes of naval war, the sailing frigate *Arethusa*, under the command of Captain W. R. Mends, took part in the operation side by side with the steamers.

At last, a little before noon, signs that our cannonade had not been without its effect began to be seen in the flames which burst out from the fort at the end of the mole, and from different parts of the works and storehouses which had been most exposed. At one o'clock the fort blew up with a terrible explosion; the rest of the batteries, most of which were now in flames, discontinued their fire; and Captain Jones brought his squadron closer in to attack the shipping behind the mole. Its destruction was easy and rapid. Many of the vessels were sunk by our guns; others took fire, and the conflagration lasted throughout the night and the greater part of the next day. The trading vessels under the quarantine mole, and the unarmed part of the town were spared; but the batteries, the Imperial docks and port, the barracks, and the abundant supplies of ammunition and military stores of all kinds accumulated in the Government storehouses were utterly destroyed.*

This was in reality the same sort of thing which towns on the north coast of France had been subjected to over and over again in earlier times. The only real difference was that the shells were fired from guns instead of mortars, and not against private property.

* Yonge, vol. ii., p 562.

But the bombardment of Sweaborg on the 9th and 10th of August 1855 was in reality a return, on a much more imposing scale, to the ordinary operations against the French coast towns. Numbers of mortars mounted in specially built sailing mortar-vessels were the engines chiefly relied upon. Gun-boats carrying one or two heavy shell-guns formed the next implements of attack, and only one or two line-of-battle ships, at each extreme of the attack, created a diversion by firing for a short period, at somewhat long range, on some earthworks and gun-boats which formed the flanks of the defence. I have extracted the plan of the operations from Yonge's *History of the Navy*, but as the object is not to go into detail of attack, I need only observe that with the exception of the French mortar battery erected on an island, everything was kept in motion, and the casualties from the enemy's fire were very few. There was, however, a great failure amongst the mortars, many of them splitting up rather than bursting after a short time. The command of the sea, it may be remarked, was entirely secured by the immense fleet which was not occupied in the bombardment, and was ready to act against any possibly interfering force.

The result of the bombardment was one great explosion, with lesser ones, and many fires, which continued long burning. The Russian reports were that the damage was slight. The telegraphic account to the Russian Government at 10.17 P.M. on the 10th, was—

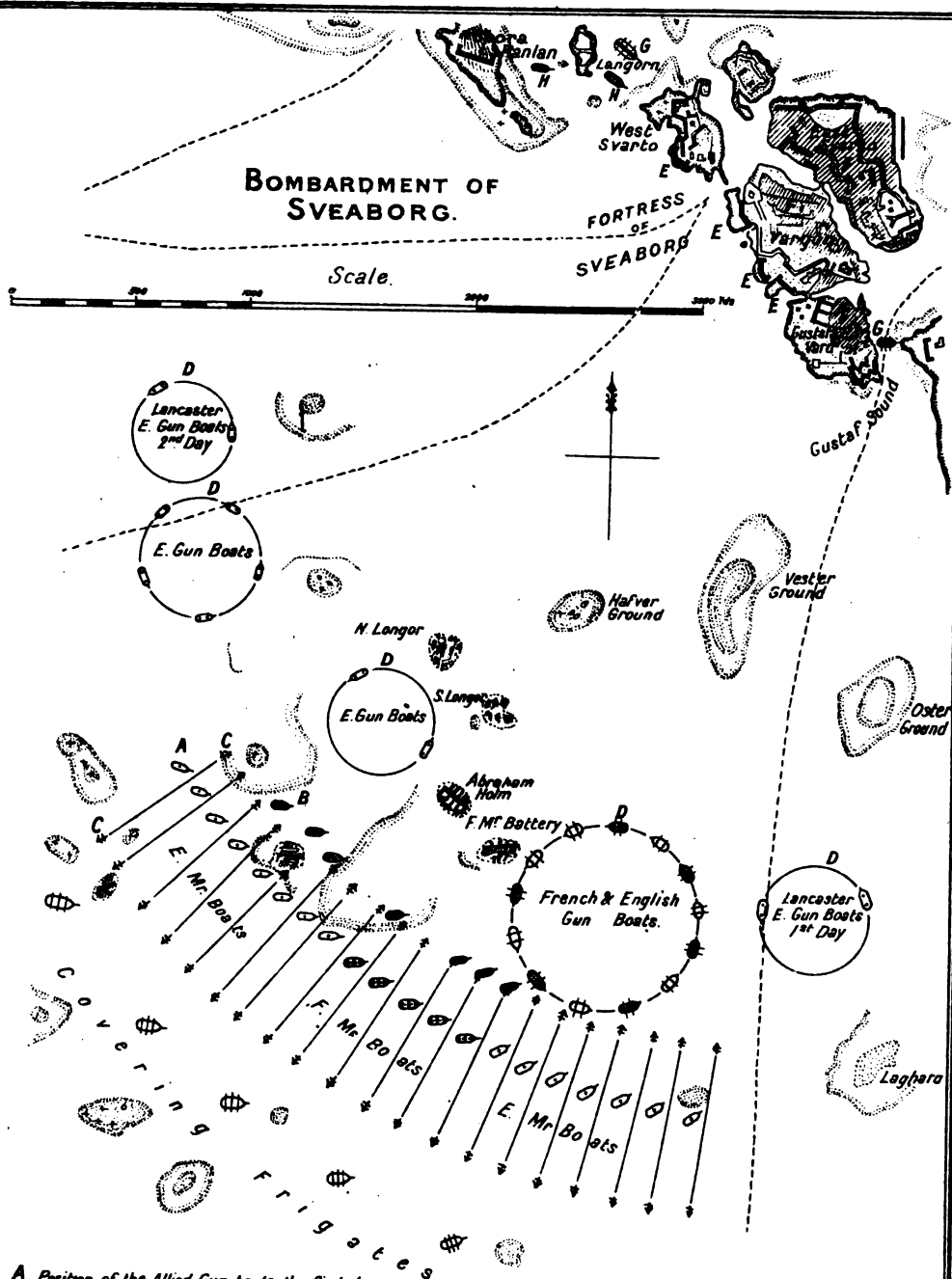
The bombardment to-day has positively done no damage, either to the fortifications or to the batteries or guns. In these two days the conflagration destroyed some buildings in the island of Stura-Ester-Swartoe.*

No lives were lost on the side of the Allies. The Russian loss was not published. They estimated that the allied fire reached thirty shells per minute, and that 10,000 shells were fired between 7 A.M. and 8 P.M. on the 9th of August. I have not seen what the actual expenditure of the Allies was, but I think the general impression has been that the allied expenditure on the attack was not more than balanced by the results obtained. Yet I suppose it must be considered as the greatest bombardment which was ever undertaken from the sea. Certainly, nothing resulted from it to alter the general judgment which had long been passed on operations of the class. Perhaps the most novel feature in the bombardment was the great distance at which it was carried on. Reference to the plan shows that no gun or mortar vessel was nearer than 2,000

* *Annual Register* for 1855, p. 131; Yonge, vol. ii., *passim*.

BOMBARDMENT OF SVEABORG.

Scale.



- A. Position of the Allied Gun boats the first day.
 B. Position to which a portion advanced on the second day.
 C.C. The lines marked at each end by anchors indicates the hawsers laid down from each mortar boat.
 D.D.D.D.D. The circles in which the Gun boats moved.
 E.E.E. Forts which did not exist in 1854, but were added in the winter of that year.
 F.F.F. The works destroyed by the bombardment.
 G.G. Russian Line of Battle Ships moored head astern.
 H.H. Russian ships sunk to obstruct the channel.

- English Ships
 French D?
 Russian D?

yards to the batteries, and that most of the mortar-boats were over 3,000. The method of altering the position of the mortar-boats from time to time, by hawsers laid out ahead and astern, was possibly not new; and the circling of the gun-boats was but what might have been done in a somewhat varied manner by vessels under sail. All this leaves the chief change in material to the substitution of few and heavy shell guns for many smaller shot guns.

It is not necessary to do more than notice the fact that our ships in the Black Sea—chiefly sailing line-of-battle ships—engaged the powerful Russian forts at Sevastopol on the 17th October 1854, as an assistance and diversion to a bombardment from the land side at the same time. It was a fine exhibition of gallantry, but the Russian works were not those of Algerines or Egyptians; nor could they be approached nearer than 750 yards on the side chosen by the English flag-ship, so that the results were no more encouraging than heretofore for that particular method of attack.

A certain amount of bombarding was done by the Chilians on Peruvian coast towns in 1879–81. The naval forces were small on both sides, but it does seem worthy of note that Peru, as the inferior naval power, did not attempt to make territorial attacks from the sea, though she engaged ships covered by shore batteries.*

Nor can the Chilian bombardments by gun and rocket, as at Mollendo and Pisagua, be regarded as regular set attacks upon territory, but rather as casual reprisals upon practically undefended places, where troops had in the first instance fired on Chilian boats sent to destroy wharves and cargo barges, &c. These were minor affairs in ordinary course, which had constantly happened in the days of sail. Yet it ought to be observed that this first method of carrying on the war adopted by the Chilians, which came to something like ignoring the Peruvian navy, was wholly condemned by the Chilian people, and many of those concerned in it lost their commands and reputations. Afterwards, when at Arica, it became a question, on the 4th October 1879, whether the Chilian squadron should bombard the place or go in quest of the *Huascar*, the latter decision was taken, and the result of it was the capture of that ship on the 8th.

This gave the Chilians the command of the sea, and they very

* *The War on the Pacific Coast of South America, 1879–81*, by Lieutenant T. B. M. Mason, U.S.A. Office of Naval Intelligence; *The War between Peru and Chili*, by Clements R. Markham, C.B., F.R.S.

soon began to make use of it by pushing territorial attacks. The capture of Pisagua on November 2nd was almost in regular form. The main body of the troops were landed some distance down the coast to advance on the place by land, while smaller bodies, covered by the ships, were to land at closer quarters, but chiefly by way of feint and diversion. But the Chilians were able to convert the feint into the real attack, and the main body found the work done on its arrival.

Arica was shelled for a time by way of diversion on February 27th, 1880, but the ships drew off, finding that the odds were against them. But the general course of the Chilians was the carriage of troops along the coast, and the landing of them at convenient places for purely military operations.

What was in some respects a novel feature in naval warfare took place here two days afterwards, and was continued for six days. The Chilians had bought an Irish cattle-ship, the *Belle of Cork*, and at Valparaiso they had fitted her with an 8-inch 11½-ton breech-loading Armstrong gun on a revolving carriage. It had a great range, much greater than any of the guns mounted on shore. Immediately on her arrival off Arica, this vessel, which had been re-named the *Angamos*, opened fire on Arica at from 6,000 to 8,000 yards range. She fired 100 shell into the place deliberately, but it does not appear that any great damage was done.*

This operation, which was several times repeated by the same ship at different places, until on December 9th, 1880, the gun, on discharge, suddenly slipped out of its trunnion ring and disappeared overboard, was really less novel than it seemed. We have several times observed that when territorial attacks were designed, the ships were accompanied by bomb-vessels, sometimes two or three, sometimes only one. We have just read how at Algiers the bomb-vessels operated at what was then an extreme range, 2,000 yards. It was of the essence of the bomb-vessel's functions that she should throw shell at ranges which were, by comparison long. We have seen the gun and the mortar united at Sweaborg on precisely the same service, and now we see the *Angamos* alone performing just the functions which a bomb-vessel would have performed had the mortar been adopted instead of the gun. I suppose it is not impossible that the howitzer may, for this kind of service, take the

* Lieutenant Madan. "Incidents of the War between Chili and Peru."—*Journal R. U. S. I.*, vol. xxv., p. 700. Lieutenant Mason does not mention the occurrence. See also Markham.

place of the gun, in which case the change would be even slighter than the *Angamos* made it.*

The change seems to be summed up in the extension of the range at which bombardment is conducted. When the French bombarded Sfax on July 5th, 1881, the *Chacal* opened fire at 5,000 metres on the Water Battery, and breached it after an hour's work. The land batteries replied with only 18 discharges. At first their shot fell short, but when they got the range, they reached the ship. On July the 6th, the *Reine-Blanche* and the *Alma* fired slowly and at long range, throughout the day, upon the town. The *Pique* and *Chacal* opened fire in the afternoon upon the batteries at 2,400 metres. These only replied with 18 discharges. On the 7th the same sort of fire was resumed, with the same feeble reply, but on the 8th the bombardment was pressed more closely home by the employment of the armed launches of the ships up to ranges of 1,000 metres. On the 9th fire was again opened, but only two shots were returned.

The fleet with the troops for landing arrived on the 14th of July, and, after further bombardment on the 15th and 16th, at ranges of from 2,200 to 6,500 metres, six battalions and a naval brigade landed, and after slight opposition and loss captured the town.†

Here, again, we seem to be met by the reflection that the differences between an operation of this kind in 1781 and 1881 are matters of degree. If the range at which ships attack works for the purpose of silencing them to prepare for landing the troops is increased, the time necessary is correspondingly attenuated. The long range at Sfax was forced on the French ships by reason of the shallowness of the water. Perhaps the ships would have taken no part in the capture of Sfax a century earlier; but the troops, and the command of the sea—the two requisites—would have been just as clearly demanded in the one case as in the other.

The bombardment of Alexandria on the 11th July, 1882, had for its object "the destruction of the earthworks and dismantling of the batteries on the sea front of Alexandria."‡ Hence

* Remark is offered by Lieutenant Madan as to the advantage the *Angamos* had by the superiority of the range of her gun. This was obviously an accident, and was always present when, in days gone by, a bomb-vessel opened on a fort with her mortars.

† "Operations of the French Navy during the recent War with Tunis, 1880-81." Translated from *L'Armée Maritime*, by Lieut. M. Fisher Wright, U.S. Navy, Office of Naval Intelligence, Washington.

‡ Sir F. Beauchamp Seymour's Memorandum, July 10, 1882, given in *Report of the British Naval and Military Operations in Egypt, 1882*, by Lieut.-Com. C. F. Goodrich, U.S.N. Office of Naval Intelligence, Washington.

it was of a destructive and punitive character, such as the various bombardments of French Channel ports, and those of Algiers, Odessa, and Sweaborg. The position of the batteries, and the lie of the rocks and shoals which skirted the shore, governed the positions appointed for the ships. Such close quarters as the *Princess Charlotte* took up at Algiers were not feasible for the British ironclads. The shortest range from the batteries named for any of them was 1,000 yards, and that was extended to 3,700 yards in other cases.

To go at all minutely into the results of this bombardment would be foreign to my purpose. The leading features are familiar to most readers. The fire was opened at 7 A.M., and continued until 5.30 P.M., when the ships anchored for the night. The ships—9 battle ships, and 6 smaller vessels—threw 3,198 projectiles against the place, a general average for the battle-ships' heavy guns of 20.6 rounds per gun, or a rate per gun of one round in 31½ minutes.* The loss and damage to the ships was not great. There were 6 killed, and 27 wounded on board. But the detail of the damage done to the forts makes up a long list, and seems formidable; I must sum it all up in the conclusion of the competent onlooker who is my authority. He says, as the result of his observations: "Vessels are not yet, and never will be, able to fight on even terms with forts." This broad issue, so put, is equivalent to saying that all the modern improvements in ships have been met by equivalent improvements in forts, and unless the capacity for engaging at longer ranges be a change, there is none. Other broad issues arising out of the bombardment of the forts at Alexandria are, that the surrender of a place cannot be achieved without troops to occupy any more now than formerly; and that the command of the sea remains a necessity before such an operation can be contemplated. A narrower issue advanced a stage at Alexandria was the superiority of fire from an anchored ship, and the preference for slow and deliberate fire when the range was considerable. Nothing was settled as to whether close quarters had lost its old effect in subduing the fire of an ordinary battery.

Having thus traced out the more modern instances of attack by bombardment from the sea with or without the immediate aid of troops, I return to compare the older and more modern general attacks upon territory, and I take up this thread at Charleston in South Carolina, because, as I have observed, it was twice attacked

‡ Only 1,731 projectiles of and above 7 in. were fired.

in two different ways, and with different results, in the last century, and twice with analagous results in this century.

In the spring of 1776 it was determined to make an attack on Charleston, then in the hands of the revolted Colonists, and early in May, Commodore Sir Peter Parker, with two 50-gun ships, four 28-gun frigates, and five smaller vessels, including two bomb-vessels, arrived at Cape Fear, where he was joined by General Clinton and a body of troops. The armament sailed from Cape Fear on June 1st, and anchored off Charleston on June 4th. Two days were now employed in sounding and laying down buoys to mark the channel. The main ship channel into Charleston harbour runs from south to north, along the coast of Morris Island; and the entrance to it is over a bar six miles south of Sullivan's Island, with only seventeen or eighteen feet of water over it. On the 7th, all the frigates and some of the transports were anchored inside it, probably five miles from Sullivan's Island. The troops were landed on Long Island, which lies to the north-east of Sullivan's Island, and is divided from it by a narrow channel. The 50-gun ships were got over the bar later, and by the 15th preparations were completed for the attack.

The intention was to make a joint attack in the usual way, and certain works on Sullivan's Island, the forerunners of the ultimate Fort Moultrie, were made the first object of attack, as guarding the approach to the town. It was represented that the channel between Long Island and Sullivan's Island was easily fordable, and it was proposed to place the ships to attack the sea faces of the forts, while the troops assailed them in rear. There were difficulties in moving some of the ships up into their intended positions, but during the forenoon of the 28th June, fire was opened on the works by the bomb-vessels, and by all the ships that could bring their guns to bear. But then the troops found that the water they expected to cross was seven feet deep, and all idea of their taking part had to be given up. The ships carried on the attack for nearly ten hours, but made no sensible impression on the forts, and suffered themselves heavily. It became necessary to withdraw them, and the only result was that the ships were terribly shattered, the *Bristol* and *Experiment* (50's) lost 111 and 79 men respectively, and the rest of the ships in proportion. The attack was abandoned as a complete failure, and the troops were embarked and taken back to New York.* The points which

* Schomberg, vol. i., p. 428; Beatson, vol. iv., p. 149.

chiefly concern us are the clear intention of making the troops conduct the main attack, and the collapse which followed the failure of the military action.

But Charleston was an important centre ; and another attempt upon it, this time successful, was made in 1780. No doubt the place was now considered very much stronger than it had been four years earlier, but the size of the force assembled under Vice-Admiral Arbuthnot and General Sir Henry Clinton, was altogether out of comparison with the former one ; 7,550 men were now embarked at New York, and the naval force was 6 sail of the line, 7 frigates, and a sloop, all of which sailed from New York on December 16th, 1779, having been detained there for some time by the threat of d'Estaing's fleet, until it was ascertained that on the 1st November part of it had gone to the West Indies, and the rest, with d'Estaing himself, home to France.* The expedition first anchored off Savannah, where Clinton gathered information as to the situation of Charleston, and also ordered a co-operating force to march overland to Charleston to his assistance.

It seems at once to have been arranged that the fleet should play a very subordinate part in the affair. Clinton landed his army on the 11th and 12th of February at Stono Inlet and John's Island, separated from Charleston by two rivers, the Stono, with the Wappoo Cr  ek, and the Ashley River running between James Island and Charleston itself. Between the 24th and 26th of February the army, except troops left on John's Island and Stono, to cover the communications, was passed over the Stono River to James Island, and advanced towards Charleston. A bridge was erected over Wappoo Creek, and defensive works were set up, while the material for the siege, including guns from the ships, was collected. The next step was to send all the line-of-battle ships back to New York, while Arbuthnot shifted his flag into the *Roebuck*, a 44-gun frigate.

There was a small Franco-American naval force in Charleston Harbour, consisting of 1 44-gun and 1 32-gun frigates, besides 6 other smaller ones and 2 sloops. This force was for a long time able to seriously delay the passage of the British ships over the bar ; but when Arbuthnot persevered, and his ships were actually in the

* Schomberg and Beatson differ as to their dates, the former saying that Arbuthnot did not leave New York till February 11th, 1780, whereas Beatson makes the expedition sight Carolina on February 1st. But the necessity which was felt of waiting for the disappearance of opposing force is worthy of note, and [probably Beatson's dates are correct.

Channel, but still four or five miles from the entrance of the harbour, the American Commodore, Whipple, first fell back to support Fort Moultrie, and then further back to the town. He afterwards abandoned all defence by ships. The guns were landed and placed in battery on shore. Ships were sunk between Shute's Folly and the town, and booms and obstructions were prepared.

But still this naval work, both of attack and defence, was mere diversion. The town had been covered by a line of works on the north side, and this was the real point of attack by Clinton. On the 29th March, the army, assisted by the boats of the fleet, which I think must have come up the Stono River and Wappoo Creek, crossed over and proceeded to make a forward attack on the works. It must be noted that the Cooper River and the land on the east side of the town was open, and that Charleston could therefore draw in supplies and reinforcements. On the 9th of April Clinton was ready to open his batteries, and on that day the British squadron weighed and ran the gauntlet of the forts on Sullivan's Island, anchoring on the north coast of James Island, and as it was hoped, out of the fire from the guns of Charleston. In truth, the ships were well within range, but the fact that several shot passed through the *Roebuck* was concealed, and the enemy was deceived into so complete a belief of their shot falling short, that they left the British ships unmolested in a position where they might perhaps have been easily destroyed. Instead, they contented themselves with sinking more vessels in Cooper River, and by means of batteries and galleys forbidding approach in that direction.

Clinton had been reinforced by the troops marching from Savannah, and he was subsequently reinforced from New York, while operations in the field in the rear of the siege works, and upon the Cooper River, tended to cut off the Charleston garrison more and more from outside help. The Admiral on his side made unsuccessful attempts to push small craft up the Cooper River, but the work of the ships was not done by them, but by their men in landing parties. These first took a post and battery at Mount Pleasant, and afterwards Fort Moultrie and the batteries on Sullivan's Island capitulated.

Meantime the work of the siege went on in the regular way. The third parallel was completed on the 6th of May, on the 8th the General—Lincoln—in command of Charleston was again summoned, and on the 11th he capitulated.

If we pass now to the American Civil War, we shall see that

though the details of the two pairs of attacks were different, the principles were alike, and the same results from their application followed. We have seen that in both the attacks described, the command of the sea was necessary, but that when it was used in the successful attack, it was more to secure a base for the army by means of the navy, than to employ the latter in direct operations. The Federals in 1863 were fully assured of the command of the sea; but in the new and remarkable constructions called monitors, with their immense shell guns and their supposed invulnerability, they had implements which, perhaps, they were fairly justified in believing would upset and destroy the well-established rules of naval war. However this may be, we find the belief everywhere prevalent that monitors were more than a match for fortifications, and a preliminary trial of the *Montauk* in January and February 1863 against Fort McAlister on the Ogeechee River, which resulted in the expenditure of two stocks of ammunition without material result, only whetted the desire for further proof that old rules still held. On the 3rd of March, three of the new vessels fired on Fort McAlister for eight hours without doing more damage than could be repaired in a night, while some of the vessels were under repair after the bombardment was over, till the end of the month.

The Federals at this time had all the advantages of ports to serve as bases, which the British had had in the American War of Independence. They had seized Port Royal, between the Confederate ports of Savannah and Charleston, and had made it their main base, but they also used North Edisto Inlet, an excellent harbour within twenty miles of Charleston bar, and there, at the end of March 1863, the "ironclads," as the monitors were called, began to assemble, and from thence they sailed for Charleston bar on the 5th of April. There were 8 monitors, and the broadside ironclad *New Ironsides*, bearing the flag of Rear-Admiral Dupont. The early proceedings were precisely as they had been so many years before; there was the detention at the bar while it was sounded and buoyed, and then the gradual passage over at high water, with the final anchorage inside.

It is not necessary for my purpose to go into much detail over the attack. We hear the very old story of the whole expedition being in the hands of the pilots, and of their being unwilling to move till noon on the 7th of April. Then the ships weighed and proceeded along the shore of Morris Island led by the *Weehawken*, which had a most hampering and inconvenient torpedo-catching

structure attached to her bows. It was intended that the ships should be in line ahead, and about 100 yards apart, but precise order was found to be difficult to maintain. By the time the head of the line had reached Fort Wagner, Forts Moultrie and Sumter, and all the batteries within range opened fire, but the orders had been not to return it until within easy range of Sumter. But a line of obstructions was observed between Sumter and Moultrie, which barred the further progress in that direction, just as, by an earlier system, Arbutnot's progress had been barred up Cooper River eighty-three years before.

Various difficulties occurred in getting the ships into accurate positions against Sumter. Some ships got within 500 yards of the fort, others no nearer than 1,000. The fire of the monitors was found to be exasperatingly slow. It was difficult for the commanders, between their narrow outlook from the pilot-houses and the smoke, to see what they were doing. The ships were hampered by the tides and shoal water, and by the space, which was artificially narrowed by the supposed obstructions. The machinery of the guns failed in unexpected quarters. Bolt-heads and nuts flew about the interior of the turrets and pilot-houses in showers. The mere concussion in the interior, due to blows of the enemy's shot on the outside of the turrets, seem to have temporarily disabled the inmates.

The modern minuteness of publication gives us data which we look for in vain amongst some of the older chronicles, and in a comparison of the guns in action and of the fire on each side, and its results, we can glean a fairly clear knowledge of how this operation stands when statistically viewed.

There were 9 ships engaged against 6 forts and batteries. The ships carried 32 guns in all, of which 7 were 15-inch, 22 11-inch smooth-bores, and 3 150-pounders rifled.

Fort Johnstone mounted only a 10-inch mortar; Fort Gunter mounted 44 guns, but the largest were 4 10-inch, and 8 8-inch Columbiads, with 2 9-inch Dahlgrens, all smooth-bores, and 2 Brooke's rifled 7-inch guns. There were 7 42-pounder rifled guns, the remainder being 32-pounders. Fort Moultrie bore nothing larger than 8-inch smooth-bore Columbiads, of which there were 9, the remainder being 32-pounders, rifled and smooth bores, with 2 mortars. Battery Bee, in continuation of Fort Moultrie, carried 5 10-inch and 1 8-inch Columbiads. Wagner had only 1 32-pounder rifled gun in action, while Fort Beauregard on Sullivan's Island and that on Cumming's Point mounted 4 guns between them.

There were thus amongst the ships 32 guns, the smallest of which were as powerful as the largest of the guns in battery; while of the 67 guns opposed to them, only 2 were up to the power of the 3 smallest guns carried afloat. Thirty-three of the Confederate guns did not exceed 42-pounders, and there were 10 10-inch mortars.

If the number of the guns was adverse to the ships, the presumptive power was the other way. The actual power turned out to be very much in favour of the forts, as while they fired 2,229 shot and shell, the ships only fired 139 shot and shell in all.

All but 24 shot fired from the ships were directed upon Fort Sumter, which was struck 55 times, Moultrie 12 times, and Wagner twice. At least 346 shot or shell struck seven of the ships. The *Keokuk* received no less than 90 projectiles, the *Weehawken* 53, the *Nantucket* 51, and the rest smaller numbers. The number of projectiles that struck the *New Ironsides* is not given, but the Confederates asserted that she was struck 65 times. If this were so, we should have 19 per cent. of the projectiles fired from the forts taking effect, while 50 per cent. of those fired from the ships struck.*

The Admiral ordered the ships out again at 5 P.M., being then under the intention of renewing the attack next morning. The *Keokuk* had withdrawn beforehand, but otherwise it was not supposed that the ships had been beaten till they reassembled at their former anchorage inside the bar. Then, as reported by the Admiral—

No ships had been exposed over forty minutes, and yet in this brief period, as the Department will perceive by the detailed reports of the commanding officers, five of the ironclads were wholly or partially disabled, disabled too (as the obstructions could not be passed) in that which was most essential to our success—I mean in their armament, or power of inflicting injury by their guns. . . . I was convinced that persistence in the attack would only result in the loss of the greater part of the ironclad fleet, and in leaving many of them inside the harbour to fall into the hands of the enemy.

As an earnest of the truth of the estimate, the *Keokuk* sank at her anchors next morning.†

As usual, the weight of the failure, which should have fallen on those who ordered an attack which all experience was against, fell upon the Admiral, who did his best. Dupont was superseded by

* Probably the difference is owing to the small targets the ships offered in comparison with the size of Fort Sumter, or to the inherent superiority of converging over diverging fire.

† *The Navy in the Civil War, the Atlantic Coast*, by Rear-Admiral Ammen, U.S.A., p. 91, *et seq.*; *Journal Royal U. S. Inst.*, vol. xii., p. 248; vol. xxv., p. 316.

Admiral Dahlgren, and joint operations were arranged between him and General Gillmore, by way of Morris Island, the latter being already in occupation of Folly Island, with batteries on its north end to cover the advance into Morris Island. Dupont had already laid down the proper functions for the ships:—"Of course, the most that is expected from the action of these vessels is to relieve the troops as much as possible, and is to be considered of no other consequence."

It can be seen from an inspection of the map that as the troops advanced to the north, their right flank would be covered by the ships, while the enemy's left flank would be exposed, and any works he had, or might have, to check the Federal advance, would be enfiladed by the ironclads. It was, perhaps, hardly possible to devise a more certain method of attack. Sumter would become untenable when Morris Island was held by the Federals, and the batteries on Sullivan's Island being matched by those across the water would be left open to be taken in flank from the sea; while the obstructions, no longer covered by fire from both sides, might be deliberately removed by the Federal navy.

The strength of the method of attack was recognized. On the 10th July Gillmore opened his batteries against those of the enemy on the southern shore of Morris Island. Early the same morning four of the monitors crossed the bar and took the Morris Island batteries in flank. By eight o'clock the Confederates began to abandon their southern works and to make towards Fort Wagner. The monitors followed up, searching the sand hills, which were capable of concealing troops, as they proceeded. The Federal troops, covered by the ships, pushed on. From 9.30 A.M. to 6 P.M. the ships engaged Wagner at 1,200 yards range while Gillmore advanced to make his assault upon it. Then they withdrew out of fire for the night. In the morning Gillmore informed Dahlgren that he had assaulted Wagner and been repulsed. On the 19th of July the ships got within 300 yards of Wagner, and between their guns and those of Gillmore's batteries, the work was silenced; but an assault made at night by the troops was again repulsed.

Active operations were now suspended on Morris Island; while preparations for renewed attack went on until 17th August, but there was diversion by way of Stono River, very much in the form of Clinton's advance in 1783, in the meantime. The point of attack from the land was now changed to Fort Sumter, upon which all Gillmore's batteries opened on the above named day. The ships

engaged Wagner and Cuming's Point batteries at short range, and Sumter at long range; but the return fire was inconsiderable. The land batteries had done such service that the Confederate General in command reported "Sumter in ruins, and all guns on N.W. face disabled, beside seven other guns."

The ships attacked Sumter on the 23rd August at 800 yards, but only received six shots in reply. On the 25th there was a pause, in order to make an exchange of prisoners, but the state of Fort Sumter was such as to make the Admiral believe he could pass it with impunity if the obstructions did not prevent. On the night of the 2nd September, he took the ships up the harbour to within 600 yards of Sumter, and on the night of the 6th the Confederates evacuated Morris Island. On the night of the 8th the Federals made an attempt to storm Sumter by a boat expedition, but were repulsed, with destruction of boats and great loss of life.

Sumter had long been powerless for offensive purposes, but was still held by the Confederates, and the Federal navy, having established itself within the harbour, restricted its operations to those of blockade. Direct operations in fact ceased with the ruin of Fort Sumter. There was not military force enough to follow the plan of Clinton, and the obstructions, being considered fatal to naval advance, had proved their efficiency by the destruction of the *Patapsco* on January 15th, 1864. The operations of Sherman in rear of Charleston, combined with the virtual possession of the port which the Federals held, led to the evacuation of Charleston on February 18th, 1864.*

The analogies between the four attacks to which Charleston was subject, are, no doubt, not absolutely complete. The first attack was entirely naval, not by choice, but by the failure of the troops to take their intended part in it. The third attack was wholly naval by choice, and by a special faith in the monitors which it may be said were far from being regular men-of-war, if they were not specially prepared for the sort of service to which they were put. Admiral Dupont, however, seems to have attributed his failure to the misapprehension of the nature of things, and not to any removable causes, and he was careful to lay down a subordinate part for the ships in any future attack. That is to say that, in spite of the radical changes which had been made in the

* The capture of the town of Charleston was never in fact contemplated. The real object was the safe inshore anchorage for the purposes of blockade, which was obtained.

material, the Federals would have been wise to have taken past experience as their guide.

The analogies between the two successful attacks are also to be found more in the principle than in the details. Had there been military force enough, Gillmore might have proceeded against Charleston just as Clinton did. But, then, owing to the strength of Fort Sumter as well as to the batteries on Sullivan's and Morris Islands, the fleet could not have passed up to within gunshot of Charleston itself, which the transfer of the obstructive barrier so much nearer the entrance of the harbour than it had been in 1783 might alone have prevented. It was necessary that the troops should, in the first instance, operate upon the harbour defences, and, these being subdued, it only wanted sufficient military force to proceed directly on Charleston. What seems clear is that the navy alone did not consider itself capable of pushing on, even though there was no great barrier of fortification to oppose.

The comparisons which may be drawn between the four attacks upon Charleston make them a peculiarly valuable study; but it must not be held that exceptions to rule are any more absent from the American steam wars than they were in previous sailing wars. The works defending the entrance to Port Royal were so situated, and of such a character, that they could be, and were, reduced by 14 war-ships before any men were landed. The main body of the ships passed and repassed Fort Walker at the south side of the entrance, at 500 to 850 yards, and shelled it till it was evacuated; and then the fort on the north side, Fort Beauregard, which had hardly been attacked at all, was abandoned. There were about 100 guns in the ships and about 23 in the south fort. Works at Hatteras, mounting 25 guns, were also successfully bombarded by ships alone, 70 guns on a broadside of the ships being opposed to 25 in the works, at a considerable range. But in these cases the troops were there, or the attacks would not have been made, and they occupied and held the forts which had succumbed to the ships' fire. The type of such actions was already given in Porto Bello, and not impossibly their success depended much on the particular character of the works attacked, and the exposure of the men in them.

There were several remarkable instances of running the gauntlet, both past and between forts, in the American Civil War. These operations were practically new to naval forces, and were mainly the result of geographical conditions. Mobile, New Orleans, Vicks-

burg must, unless their lessons are hereafter reversed, teach us that forts have of themselves little power to stop a fleet passing them.

The attacks on and capture of Fort Fisher, one of the last great operations in which the Federal navy was concerned, must be noted as a further confirmation of the continuity of the rules of naval warfare through all material changes.

Fort Fisher was the chief guard of the approach to Wilmington by Cape Fear River. It was a powerful work mounting about 75 guns, and it was proposed to attack it by sea and land, with a fleet mounting 500 guns and an army disembarked in its rear.

The army being behind time, the first attack was made by the old expedient of an explosion vessel, which proved the accuracy of the historical record in proving harmless. Then on the 24th December 1864, the tremendous armada bombarded. The fire of the fort was subdued and the ships were little damaged, but when an army of 3,000 men landed next day to co-operate with the ships, its General pronounced the fort intact for defensive purposes.

The third attack was made on the 13th and 14th of January by the ships alone, while 8,000 troops were landing and preparing to attack. The final attack was on the 15th, when the troops, supported by the ships' fire, pressed on and on, till at ten o'clock at night the Federals were in full possession of the work.* There were but 2,300 men in the garrison, and considering the enormous force brought against the place, we must probably infer that most of the naval fire was thrown away. The 8,000 troops, properly supported from the sea by a much smaller naval force, would, according to experience, have succeeded equally well.*

We have seen in the foregoing chapters that the lessons to be drawn from what was not done in the way of territorial attack are not seldom as valuable as any that can be drawn from examples of what was done; and perhaps one of the very latest exhibitions of this truth, the proceedings of the French fleet in the Baltic in 1870, is as pregnant with lessons as any that had preceded it. The broad features of the situation were that the French fleet was entirely of the most modern character, all the changes in naval material having there displayed their full force, and therefore operating to produce all the changes in the method

* See Boynton's *History of the Navy during the Rebellion*. Ammen's *The Navy in the Civil War*. The most concise accounts of the principal naval operations in the Civil War are those of Admiral Hamilton (now Sir Vesey) and Captain Long. *R. U. S. Journal*, vol. xxii., p. 612, and vol. xxv., p. 316.

of naval warfare which were due to them. Yet it appeared that nothing was due to them. All the methods, influences, and governing causes which made or modified procedure in 1770 are found in full force in 1870, and leave us with the reflection that there is no reason to doubt the teaching of history as to naval warfare, even after it has been in theory revolutionized.

The intention of the French in sending Bouët-Willaumez to the Baltic in command of an ironclad fleet, was, in the first instance, the blockade of the German ports, but it was intended to devote it to the making of territorial attacks, while another squadron watched and masked the only existing German fleet at Wilhelms-haven on the Jade, outside the Baltic Sea. Here we have at once the re-establishment of the old condition that before territorial attacks can be made, a possibly interfering fleet must be masked.

Not only so, but it was as well understood by the French Government in 1870 as ever it had been in former days, that the navy alone was practically powerless to make territorial attacks, and that whether ships were steam "battle-ships" or sailing "line-of-battle ships" they did not in themselves represent the proper force for conducting territorial attacks. So when Bouët-Willaumez was told that he would be given 14 ironclads to start to the Baltic with, he was told that La Roncière le Noury would follow him with another squadron made up of gun-boats, floating batteries, and transports, conducting an army of 80,000 men under General Bourbaki.

Bouët-Willaumez never passed beyond the blockading stage in the Baltic, imitating therein the conduct of the larger proportion of British admirals in command for years in the North Sea, the Channel, and the Mediterranean. There was a furious outcry against him in France by a people profoundly ignorant of the conditions, yet his answer was complete. He had no troops, no small vessels; none of the appliances for territorial attack; and the masking of the very inferior German fleet was not complete. The conditions which had always prevented territorial attacks prevailed, and they were found to have just the same weight as they always had. The French people had assumed wrongfully that steam and rifled shell-guns had changed all things, but it was found that they had changed nothing; that was all.

When Bouët-Willaumez sailed from Cherbourg on the 24th July, he took with him but 6 battle-ships and 1 despatch vessel. With this force he proceeded to do the only thing open to him, namely,

to watch the German squadron. But orders soon reached him (on August 2nd) to pass on into the Baltic, which he did.

He reconnoitred the coast, considering the most suitable points of attack when the land forces and small craft, which he still expected, should reach him. He made Kiøge Bay his base, and refitted there, receiving a communication from his Government, dated August 7th, which inferred that none of the necessities for territorial attack would reach him, and directly informed him that "it was in a strict blockade of German commercial ports that the chief means of action by the squadron would be found."*

Subsequently Bouët-Willaumez reconnoitred Kiel again, and other parts of the coast, and then, having received one despatch from his Government which ordered him back to France, and another which bade him stay in the Baltic, he returned to Kiøge Bay, and ordered a committee to assemble and report to him as to what might be in the power of the squadron as it stood, to effect by way of territorial attack.

This Committee was immediately formed. It was composed of Rear-Admiral Dieudonné, President; M. Duburquois, Chief of the Staff; Lacour, Colonel of Artillery; and two Captains, chosen by lot, Captains Quilio and Serres, commanding the *Guyenne* and the *Thétis*. On the 12th August they met on board the *Surveillante*, and the same evening their report was complete.

The following are the terms in which they expressed themselves with regard to the most important places on the Prussian littoral, and the military operations which might be undertaken:—

Alsen.—The depth of water will not permit an approach to this point within at most 3,000 metres, a distance at which an engagement would be useless, because of the plunging fire of the forts. Nothing is here possible without a force to land. Besides, it is most probable that submarine mine defence extends along the shore, which it would be indispensable to remove, and which could not be attempted until the squadron was supplied with the necessary materials.

Duppel and Kappeln.—Completely out of reach from the ships' guns. Too little water in the bays. We could only get at them with armoured gun-boats.

Eckernford.—It is easy to destroy the isolated batteries, but they are of no importance, and without the possibility of throwing troops on shore the reduction of the forts would be insignificant.

Kiel.—It would be necessary to employ the whole force of the squadron. The success of gun-fire uncertain, on account of the height of the forts above the shore, and the losses certain for the assailants, if they were not able to occupy the forts as they were silenced. The forts of Frederiksdort being destroyed, and the squadron being unable to penetrate to the bottom of the bay within gunshot range of Kiel, on account of the obstructions, the torpedoes, and all the means of defence which have there been accumulated, the French ships would soon be forced to retire without even knowing the result of their attack.

Neustadt.—An open town and without defence, but with a bay so shallow that the

* *The Campaign in the North Sea and the Baltic*, by René de Pont Jest. *Journal R.U.S. Institution*, vol. xxxiii., p. 229.

French ships could not even reach with their projectiles the merchant ships which are anchored some distance from the port, properly so called.

It is the same all along the coast as far as—

Colberg.—A strong place, besieged in 1807, and attackable (from the sea) at 2,200 metres. Before entering upon action there, it will be necessary to make a reconnaissance, in order to make certain that the houses along the shore, the Casino in particular, do not mask fortifications which would compel a modification of the plan of attack.

Danzig.—The fort at the entrance to the bay is within range of our upper-deck guns, but only at a distance of 400 metres. The battery guns could not be used elsewhere with advantage.

Conclusion.—Colberg and Danzig alone can be attacked; but the small effect which will result from these two attempts will be of a nature to deprive the French squadron of the prestige of its force. In order to operate usefully, special vessels are required, and the prospect of forcing the enemy to assemble his troops on this part of the littoral. But this end is unattainable without a landing force.*

We thus see that all that was open to this modern steam fleet, whose real function was holding the command of the sea, and not territorial attack, was just what would have been open to a sailing fleet of line-of-battle ships in the same waters one hundred or two hundred years before. The projectiles which might be fired into Colberg or Danzig were larger, and would generally be shells; their range was greater, and the attack might be conducted at a greater distance from the shore, but otherwise all the *pros* and *cons* were the same as ever, and still as ever was it necessary that the ships attacking should have command of the sea assured. The proof came immediately.

There remained, then, Colberg, and Vice-Admiral Bouët prepared to make some serious demonstration against this town, when he received, on the night of the 13th August, a dispatch which informed him that the Prussian fleet had left the Jade, and had passed up the Coast of Jutland to enter the Baltic. The fact might be true, for it was possible that Prince Adalbert might have learnt the departure of Admiral Fourichon from Cherbourg, and had left the Jade to seek the shelter of Kiel, which he thought might be attacked. In the face of this contingency, the Commander-in-Chief of the squadron did not hesitate an instant; he hastily drew his ships together, and proceeded towards the Great Belt, to oppose the passage of the enemy's vessels, and to offer them battle.

The attack upon Colberg was thus postponed by the threat of an inferior force, just as, so many years before, Newport had been saved by the threat of the inferior force of Howe. It was not, perhaps, that there was a fear of what the inferior force of the enemy might do, or attempt to do, directly. It was just the impossibility that a commander whose operations depended on his supremacy at sea, could allow that supremacy to be even questioned by the appearance of the enemy's fleet at sea and unfought.

The information was subsequently found to be false, and again

* René de Pont Jest. *R.U.S. Journal*, vol. xxxiii., p. 230.

preparations were made for the attack on Colberg. When within 80 miles of the place, a gale of wind decided a rendezvous at Kioge Bay, and there true news reached Bouët-Willaumez that the French squadron had raised the blockade of the Jade. Colberg was once more saved, for the Admiral felt bound to give it up, and to make his dispositions to defend the Great Belt.

Here, therefore, we see that under the latest conditions, as under the earliest, even so simple an operation as the distant and merely punitive or destructive bombardment of a place cannot be undertaken unless possibly interfering naval forces of the enemy are first masked.

I think, therefore, that these chapters leave us under the inference that certain conditions—command of the sea, sufficient and well-handled land forces, landings either away from the batteries, or after their fire has been temporarily silenced, proper appliances and small vessels—have always been necessary to secure the success of territorial attack, and that there is at least nothing in recent times, to show that the rule has in any way changed.



A Cruise in a Copper Punt.

By CHARLES EDEN.



MAADNESS is at all times a terrible scourge, both to the unfortunate sufferer and his anxious friends, but it may be questioned whether a lunatic ashore is half so dangerous as one of these unhappy beings afloat, cooped up within the narrow limits of a ship's ribs, and a standing menace to the entire crew. Some sage has wisely affirmed that we are all mad—pleasing reflection!—that each individual member of the human race is the victim of a distorted imagination on one or more particular subjects. He may be right, for aught I know, but certainly the mass of our fellow-men contrive to pass through life unsuspected, and—unless they have the misfortune to be Radical Ministers—hide their mental alienation in a very creditable fashion from the eyes of the world at large.

To your hard-headed, practical man, an indulgence in any unrecognized pursuit indicates weakness of brain, and such a one is ever delighted to dub his neighbour—or best friend, in preference—a harmless visionary, should fancy or genius tempt him to stray aside ever so slightly from the beaten track. He cares nothing that to such eccentricities are due steam, the telegraph, photography, and a dozen other marvellous inventions that have proved of inestimable benefit to the human race, but whispers darkly that Jones has “a bee in his bonnet,” that Brown is “off his chump on the subject of ballooning, my boy,” or that Robinson is “a shingle short,” the terms varying according to the nationality and status of the acute critic, but all tending to show that the unhappy enthusiast is lacking in the mental ballast which he, the speaker himself, possesses in such superabundant quantity.

As I mentioned above, with one notable exception, most men may drag through their threescore years and ten without any detection of the cloven hoof, but, mark me—it *must be ashore*. Afloat, the concealment of any idiosyncrasy becomes a moral im-

possibility for reasons so obvious that it would be wearisome to state them, and then the sufferer—for naval officers are a very conservative body, viewing all innovations with as much dislike and distrust as a Corean—is promptly entered in the mental register of each of his messmates as “cranky,” and, if he be of junior rank, is subjected to much rough bantering, which it will tax his store of philosophy to withstand good-humouredly. But “chaff” or persecution are alike powerless to root up the plant that has its origin in nature; as well try to make the Ethiop change his colour, although a certain school of wise men hold that this transformation is actually taking place across the Atlantic. Either the enthusiast leaves the service in disgust—the best solution for both—or he drags on until the attainment of a certain rank enables him to ride his hobby unmolested, save by caustic allusions to which he has long grown callous.

Such an example was to be found in Cranky Bob Farmer, first lieutenant of H.M.S. *Shrew*, at the time when I was a passenger (on promotion) in the said frigate from Panama to Mazatlan, at the latter of which places I hoped to fall in with and join my own ship. From the moment of his first donning the blue jacket Farmer had rejoiced in the title of Cranky Bob, and, like most other nicknames in the service, it had stuck to him. The subjects which had earned him this desirable *sobriquet* were twofold and widely apart—boat-building and the manufacture of looking-glasses. As a youngster he had little opportunity for the indulgence of the last-mentioned whim, not having space in his chest to stow away the requisite chemicals, and, moreover, he got into such a scrape for stealing the quicksilver belonging to the naval instructor’s artificial horizon, that even his intellect recognized the necessity of postponing further researches in that branch of decorative science until circumstances wore a more propitious aspect. But no such hindrance brought the boat-building to a temporary standstill, and the productions of his knife and brain combined were truly wonderful, not so much for the impetus they gave to naval architecture as for the extraordinarily quaint ideas of which they were the embodiment. His favourite companions were to be found amongst the carpenter’s crew, and his workshop was situated in the recesses of the cable-tier, from whence he would be driven forth by the indignant mate of the orlop deck and soundly thrashed, or haled before the commander for more condign punishment. He was much senior to myself, and prior to my joining the *Shrew* as a supernumerary I had not known

him personally, although yarns innumerable were afloat concerning him.

His first appointment to a steamship was an epoch to be marked by a white stone in Cranky Bob's calendar, for a vista of endless potentialities now lay open before him, and he constructed various ingenious little toys with the aid of watchsprings and the interiors of venerable clocks that he managed to pick up, heaven knows where. Indeed, the attractions of this new mistress at one time threatened to divert his mind from both boats and mirrors, for with some assistance from the engine-room artificers he manufactured a hideous-looking object out of a *bouilli* pot, which he called a locomotive, and which he introduced proudly into the gun-room as a novel means of circulating the decanters after dinner. Unfortunately the *bouilli* pot was defective, and on her trial-trip the "Quencher," as the machine was playfully named, burst, severely scalding two of the inventor's messmates and himself to boot, whereupon the incensed midshipmen inconspicuously hauled the nautical James Watt over the table and gave him three dozen with a stocking full of wet sand, a very effective instrument as you, reader, would confess if you had ever wielded it, or—which heaven forbid!—had experienced the numbing sensation its application leaves *behind*.

Such was one of the legends rife concerning Cranky Bob, and my first introduction to him led me think that it was in nowise exaggerated. On joining the *Shrew* I had to report myself as "come on board," and, finding the captain was ashore, I proceeded with that object to the cabin of the first lieutenant.

"I beg your pardon," was my involuntary exclamation on sliding back the door and finding myself confronted by a man in shirt and trousers, who was performing some intricate evolutions with a sheet of plate-glass; "I beg your pardon, but the sentry told me Mr. Farmer was here."

"Oh, all right; I'm the man himself. Come to take a passage with us, eh? Just step in and shut the door, like a good fellow. Now lend me a hand to steady this—so." And he poured a quantity of quicksilver on the prepared surface of the glass. "Steady, steady! Now back with it into the bottle. Beautiful—lovely! This will be the best I've turned out yet; it hardly distorts the face a bit—does it?—and any flaws arise from imperfections in the glass. Can't get anything really good in this confounded hole! Why, what's the matter—anything wrong?" for I was staring ruefully at my finger, five minutes before encircled with a broad

band of gold, which now assumed the colour of dull Britannia metal. "Oh, I see; your ring—turned by the quicksilver; it will honeycomb it most likely. Never mind; the mirror is worth a shop full of rings. Now let's have a glass of grog."

"Well, you *are* a queer fish," I thought, on seating myself at the table, and noticing the hands and face begrimed with chemicals, together with the general unseamanlike appearance of my new friend, "a proper queer fish to be first lieutenant of a crack frigate!"

And so he was.

For some reason or other, Cranky Bob took to me in a wonderful way. Probably this was because, being a stranger, I did not exhibit the unequivocal symptoms of boredom that his brother officers took no pains to conceal whenever he held forth on his favourite subject. As some extenuation for these gentlemen, I may remark that three years devoted to the discussion of boats and mirrors is a little apt to pall, and, moreover, Farmer was not a popular man in other respects; the executive branch were disgusted at the little pride he showed in the smart frigate, whilst the "idlers" were weary of his absurd theories. However, he took a wonderful fancy to me, and on the second day after my joining showed me all the models and treasures with which his cabin was crammed.

"Look at this, now," he exclaimed, rapturously, holding out for inspection a flat-bottomed dish with a rounded bow. "Did you ever see a neater little craft? You are wondering what it is. Well, it's the model of a new copper punt I am having built. We'll go up on the main-deck and see her presently. I'll warrant *that* little craft to live in the highest surf that ever ran, for she is built on the lines of the Madras *masoolah* boats, with a few slight improvements of my own," he added modestly.

"But if my memory serves me," I remarked, "the *masoolah* boats are sewn together, not nailed or bolted, which gives them elasticity sufficient to stand the shock of grounding."

Cranky Bob looked at me with a quiet pity that was somewhat disconcerting, then slowly replied, "Crass ignorance on such matters is not confined to the far East. Listen," he continued, mysteriously, "I have proved that the stupid theory about elasticity is wholly wrong, and none but a set of pudding-headed Orientals would have persevered in their error for so many centuries. Is it not self-evident that the firmer the materials the greater the resistance on striking?" and my theoretic friend eyed me triumphantly.

"But a copper punt is not wanted as a surf-boat," I objected, begging the question on seeing that argument was thrown away upon my companion.

"True enough," he replied, "but a ship cannot have too many seaworthy boats; so I gave old Mansell, the chief boatswain's mate, a hint, and he soon contrived to get the old punt stove in, so I am having a new one built, and shall try her at Mazatlan. I'll tell you what, old fellow," he added, in an impulse of unfeigned generosity, "you are not like most of these stupid asses, who don't know a neat model when they see one, and are so confoundedly ugly that they would crack the best mirror I ever made. You appreciate my efforts, and hang me if you shan't accompany me on the first trip. Is it a bargain? Right you are, and there's my hand on it."

If the truth must be told, I was greatly flattered at this mark of confidence on the part of Cranky Bob, for I had only just received my epaulettes, and to be hailed as a sympathizing comrade by one so much my senior, touched me in a very weak quarter, my vanity; so I accepted the offer in the same hearty spirit that had prompted Farmer in making it, and the affair was settled.

Often during the tedious passage to Mazatlan did I watch the carpenter's crew putting the finishing touches to Bob's latest craze, but I little thought then to what manner of test the ugly little flat-bottomed brute was destined to be subjected, nor of the real significance of the promise that I had so readily given.

It is not improbable that at this stage of my yarn some reader may be tempted to ask, "What is a copper punt—what its appearance, utility, &c.?"

A copper punt is a small flat-bottomed boat, fitted round its gunwale with stout rope fenders, and employed to carry the men told off to polish with hand and canvas such portion of the copper sheathing as appears above water when the vessel is in harbour, as well as to scrub the paint-work round the bends. Neither oars nor rowlocks, nor other rowing apparatus, is ordinarily fitted to this nondescript, which owes its power of locomotion to a hand wielding a boat-hook, by means of which it is hauled ahead or dropped astern. Only when a ship is to remain several days in a port is this unsightly tarred punt hoisted out for use; at sea it remains quietly stowed on the booms, and is not a bad place for a stolen pipe at night. At regattas, given by a fleet or squadron, there is usually a copper-punt race, their crews propelling with shovels in lieu of oars, and commonly arriving at signal grief before reaching the

winning-post. Such is the ordinary copper punt, a sort of sucking fish, inasmuch as it is never detached from the body to which it belongs.

We reached Mazatlan eventually, when I found, much to my disgust, that my own ship had not yet returned from the Gulf of California, so I still remained a supernumerary on board the old *Shrew*. It was a broiling hot forenoon, two days after our arrival, and I was sitting in the ward-room endeavouring to catch a little fresh air from the windsail, when a quartermaster came down and told me that the new copper punt was alongside, and that the first lieutenant would be ready to start in ten minutes. Such of the *Shrew's* officers as heard this message began to give me sage advice forthwith.

"Take a life-buoy with you," cried the paymaster.

"And I'll have my instruments ready to whip off the stumps, when the sharks have had tiffin off your legs," echoed the doctor, with grim facetiousness.

"Don't let him take you over the bar. He'll try it, for a certainty," grunted the old master, who had just returned from winding up the chronometers.

But of such raillery I took little heed, although I must confess that the mention of sharks was not very pleasing, and slipping into a suit of light flannel and canvas shoes I went up on deck and joined Farmer. I found him at the gangway, gazing down in delight at the copper punt which lay alongside the accommodation ladder, with three boys in her who composed the crew, the midship one pulling a pair of sculls and each of the others an oar. The captain was walking up and down the quarter-deck, smoking an after breakfast cigar, and curiosity prompted him to cross over and look at Farmer's new toy, but he made no remark, having long since ceased to take any notice of his first lieutenant's eccentricities.

"Come, jump in, and we will try her round the Whale Rock before the sea-breeze sets in," cried Cranky Bob, almost dancing with excitement. "Tumble down the ladder, and I'll follow you. Sits like a duck, doesn't she? Oh, you want to come, Mansell," he continued, seeing the old boatswain's mate hovering about the gangway. "Well, stow yourself in the bows; there's lots of room."

But "lots of room" was the very essential that we most lacked, for when Farmer and I had crouched in the stern we found ourselves jammed together like sardines in a box, and when Mansell, a tall, powerful fellow, coiled his long carcase in the bluff bows,

our new embarkation presented far too little gunwale above water to be altogether pleasant, and I ventured to draw Cranky Bob's attention to this fact, although I might just as well have held my tongue, for by way of response he gave the order to shove off, and in a couple of minutes we were a hundred yards from the frigate.

It was a dead calm, the surface of the water perfectly unruffled, although a long heavy swell—the accumulated might of the slumbering Pacific Ocean—surged into the roadstead, making the old *Shrew* show a good many streaks of sheathing as she rolled lazily from side to side. About half a mile ahead of us the dangerous Whale Rock showed its teeth above water between the swells, which broke into fountains of spray against its jagged sides, and often wholly concealed it in a mass of glittering foam. On our port quarter, some mile distant, extended the bar at the mouth of the Mazatlan River, on which the rollers were breaking heavily, with a deadened roar that was plainly audible and not unpleasant in its dull monotone.

Encouraged by the first lieutenant, the boys stretched out gallantly, and certainly the copper punt seemed likely to deserve all the encomiums its enthusiastic designer had heaped on her. She was low in the water, without doubt, and did not seem likely to exhibit any extraordinary buoyancy; but on a calm day she was safe enough, although I still inwardly adhered to the opinion that it would have been both wiser and safer to have left the heavy boatswain's mate on board.

However, it was no use croaking, and I soon found myself actually enjoying the pull as we neared the Whale Rock, and could see the rainbow glistening in the falling showers of spray. Cruising round stealthily and slowly were two triangular black patches of ominous appearance, the fins of hungry sharks; but Farmer steered the punt straight for them, and the monsters sank sullenly below the surface to be seen no more.

"Well, you have every reason to be proud of your craft," I remarked when we had pulled some distance beyond the rock; "and we had better return, since her powers have been so satisfactorily tested."

"Very well," replied Cranky Bob. "The sun is becoming rather powerful; but I want to see how she behaves in a slight swell," and with a turn of the tiller he headed the boat for the mouth of the river.

For some time I said nothing, but when the placid rollers

became ruffled, and Farmer continued the same course, I ventured to expostulate—

“Surely you are not thinking of crossing the bar in this cockle-shell,” I sang out, for the roar of the breakers was now deafening. “We shall be swamped to a certainty, and—think of the sharks.”

“Devil take the sharks!” was the rejoinder. “They’ll go hungry if they think to make a meal off us. Just a hundred yards farther, and then we’ll up helm. Look how the beauty rides—like any duck!” as a huge billow swooped past, lopping several gallons of water over the low gunwale.

I was silent. Argument was useless with the hare-brained enthusiast; but looking at the boys I saw that they were thoroughly alarmed, and even old Mansell’s weather-beaten cheek had paled a little. Touching Farmer’s sleeve I pointed to the lads, and their condition must have struck him, for he only waited until a giant swell had rushed past us, canting the miserable tub almost on end, and then steadily put the helm a-starboard to turn her.

This was the critical moment, and all depended upon the skill and promptitude with which the crew used their oars. Hitherto our stern had been presented to the surf and had offered no resistance to its impetus, now, whilst broadside on, the boat would be completely at its mercy. Farmer behaved like a brave man, and managed the crazy punt with consummate skill, whilst exhorting the boys by word and gesture, and allowing no sign of our dangerous position to appear on his face. “Pull away, you young beggars,” he shouted, “unless you want a wet jacket. Hulloo! What’s the matter now? Sit down, you infernal idiot!” for the boy pulling the midship pair of sculls had dropped them and, standing upright, was pointing to an approaching swell with mouth open and eyes starting from his head in terror. Instinctively I followed his gaze, and saw above the surge a hideous black triangle, while the form of the monster itself was plainly outlined beneath the surface.

“Knock him down, Mansell,” roared Cranky Bob; “knock him down, and take his place. We shall be swamped through that young rascal’s cowardice. By G——, that was a narrow squeak; nothing but this beauty would have stood it,” he continued, as the angry surf with its hideous freight was driven past us, seething and hissing.

Had the botswain’s mate not been a man of great nerve and promptitude, I should not be sitting down at a Sussex watering-place to record this tale, neither would Cranky Bob have ever in-

vented the wonderful torpedo-boat which has since made his name famous. With an agility for which I should never have given one of his bulk credit, Mansell rose to his feet, sprang over the bowman, seized the terrified lad by the nape of his neck and thrust him beneath the thwarts by means of sheer strength, and then grasped the sculls, which were lying idly on the water and impeding the movements of the other two rowers, who behaved splendidly. Half a dozen strokes from the old sailor's sinewy arm turned the punt head on to the swell; his heavy weight moved from the bows made her ride lighter, and in five minutes we were outside the broken water and in safety.

"Thank Heaven we are out of that mess!" I ejaculated fervently, when the roar of the bar was sufficiently distant to render conversation possible. "It was a deuced narrow squeak, though."

"Yes, we stood in a bit too far," remarked my companion coolly. "But didn't she behave splendidly? Isn't she a credit to the old *Shrew*?"

I made no reply, beyond registering a mental vow never again to accompany a constructor on the first trip made by his craze.

At Farmer's order the lad resumed his place at the sculls, and we pulled alongside without further misadventure; but when the exultant designer of the copper punt stepped over the gangway, he was told that the captain wished to see him in his cabin. What transpired at that interview I am unable to say, but I imagine that Cranky Bob received a pretty severe "wiggling" for his foolhardiness in endangering the lives of half a dozen people. This seems the more probable, as it subsequently turned out that the skipper had watched our precarious situation through a glass from the stern port. In any case, the reader may rest fully assured that was my last, as it was my first, "cruise in a copper punt."

Gleanings from the Foreign Press.

DISARMAMENT.—*Apropos* of the publication by a lady of a work advocating disarmament throughout Europe, the *Internationale Revue über die Gesammten Armeen und Flotten*, for October, quotes the opinions held by a variety of distinguished men regarding war, and arrives at the conclusion that it is an excellent institution. Latin proverbs, in support of this view, are of course to be found in abundance, and though the ethics of Romans are now obsolete, their political maxims are still as valuable as ever. The most hysterical opponent of war will, however, feel disposed to pay attention to the apophthegms of such men as Luther and Moltke, the former of whom declared war to be an institution of divine origin, while the latter maintains that it is a blessing to mankind (in disguise). The same unexceptionable authorities, before whose verdict most of us, civilians or military, would be disposed to bow, are liberally invoked in support of the writer's assertion: the great Reformer recorded his conviction that "man must ever be at strife on earth"; the Great Commander of our days thinks that "without war the world would sink into corruption and be lost in materialism"; again, that it "awakens in human souls the noblest sentiments, and redresses injustice." From pronouncements like these the writer draws a variety of conclusions: *e.g.* war is a divine institution; it is but a phase of Darwin's "struggle for existence, which animates all nature including mankind; it evokes the noblest sentiments and calls into activity the highest capabilities of the individual and of nations; a permanent state of peace is a human ideal which will never be attained, because the causes of strife cannot always be settled in pacific guise." Lastly, for the professional soldier, war constitutes a "practical test after arduous study in peace; a harvest after severe labour; a festival after a series of monotonous week-days. A prolonged peace covers an army with corroding rust, which war alone can scrape away. Thus, though a few humanitarians raise

their voices against war, the nations will not follow the example, nor shun the evil when it has become inevitable, for it is the arbiter of their destinies." All propositions for mutual disarmament will, therefore, receive an answer resembling that sent to Napoleon's by Austria in 1801: "The Court of Vienna desires nothing better ; but the difficulty is to induce the Court of Berlin to join."

The same *Revue* contains a short paper on "Russia's Maritime Base of Operations in the Baltic Sea." This base is now being transplanted from Cronstadt and Sveaborg to Libau, on the coast of Livonia, where the navigation, weather, and climate, together with greater proximity to possible objectives, offer more favourable conditions for offensive enterprise. The writer anticipates that, in the event of hostilities with Germany, Russia would aim a blow by sea at her adversary, perhaps attacking Dantzic, which is only 130 knots distant from Libau. This could all the more easily be effected in co-operation with another maritime Power.

A NEW HISTORY OF FREDERICK THE GREAT. — The first volume of this long expected history has at length been published by the General Staff at Berlin, and it has been subjected to a rather searching criticism by a writer in the November issue of the *Jahrbücher für die Deutsche Armee und Marine*. It comprises the first Silesian war and the famous battle of Mollwitz, won for the young sovereign by his military tutor, Marshal von Schwerin. Notwithstanding the ample materials at the disposal of the compilers, and, presumably the able supervision of Moltke himself, the critic is able to convict them of numerous errors. An egregious one is where they mention Sweden as a willing counterpoise to Russia, because she would be anxious "to win back Finland" from the Muscovite conquerors. But at this epoch (1741) no part of Finland had been wrested from Sweden, and by far the greater moiety of that province remained in her possession till the year 1809. This paper imparts many interesting particulars regarding the condition of the Prussian soldier in the eighteenth century. He was allowed only 1 lb. of meat per week, some say 1½ lb., a meagre ration which, after the Second Silesian War, was increased to 2 lb. The Hussars, however, were not allowed any meat. We conclude that they were expected to steal it. In another respect these light and elegantly-attired horsemen fared badly ; no tents were issued to them, though they were provided with cloaks, a garment which was denied to the infantry. Breaking on the wheel and the gallows were ordinary military punishments ; and

sometimes entire regiments were disgraced by depriving them of some honourable mark of distinction ; thus the Horse Grenadiers lost their bearskins after Mollwitz, where they behaved badly. Officers were often punished by means of heavy fines. It appears that while paved causeways had, in France and Southern Germany, been laid down during the latter half of the seventeenth century, this was not the case in Frederick's dominions ; though he improved their water communications, he would not sanction the construction of roads, probably fearing to increase his kingdom's liability to invasion on all sides. They were first begun in 1787, a year after the king's death. The writer does not enter into details regarding Mollwitz, and we should have liked to know how Frederick's asserted " strategic movement to the rear," during his first engagement, has been treated in this official account of his campaigns. It would be a touchstone whereby to measure its reliability. A Lieut.-Colonel Fitzgerald, of the Prussian Guards, who fell in this battle, is mentioned, and his name elicits the fact that captains in the Guards ranked as lieut.-colonels ; this seems to have been almost universally the case in the European armies from the era of Lewis XIV.

THE BULGARIAN ARMY.—The *Journal Militaire de l'Etranger* for the 30th October, after describing recent reforms in the Bulgarian army, draws attention to the fact that not a single general, and only ten colonels have as yet been appointed to it, and this notwithstanding that many of its officers have seen service and displayed a marked capacity for command while in the lower grades. This appears to the *Journal* to be one of the numerous indications of wisdom and methodical spirit of which the Bulgarian nation has given evidence since it became autonomous. The whole development of the army has indeed been characterized by these qualities ; its progress has been slow but sure ; the indispensable was first assured, and then developed *pari passu* with the national requirements and resources. One of the latest steps has been the " uncoupling of regiments," that is to say, the regiment of four battalions has been divided into two, thus doubling the number of regiments. Each regiment therefore consists of 8 companies, a strength which, we venture to think, will be found most convenient for the exigencies of modern warfare. The government have finally decided to adopt the Männlicher rifle in preference to the Berdan, a resolve which is not destitute of political significance. Sixty thousand of these weapons have recently been ordered in Austria.

THE TRAINING OF THE RUSSIAN MILITIA.—The *Voyenni Sbornik* of October gives an account of the training of the 1st ban of the Russian *Opoltchenie*, a force which, though not exactly answering to our own word *militia*, can be designated in English by no other name. *Opoltchenie* is in reality the exact Slavonic equivalent of the word "army," a Latin word which has been appropriated by most European languages, in some cases to signify a fleet, in others a military force. The *opoltchenie* in reality corresponds to the *Ersatz* reserve in Germany and Austro-Hungary, and the *truppe di compimento* in Italy. Since 1880, both Empires have taken steps for the due instruction of this class of troops in the elementary duties of the soldier. France has not followed the example; but Russia in 1887 began to train the 1st ban of her *opoltchenie*, with the result that by the close of last winter she had already prepared over 250,000 of her population to take their stand beside the regular troops in the event of invasion. The *ratniks* (or warriors) of the 1st ban are called out during four weeks in the autumn of the first and third years of their term, except in Poland and certain remote districts of European Russia. For purposes of instruction a certain number of men are detached from the regular army, and it is carried out in territorial districts under the supervision of the local military authorities. The *ratniks* being divided into squads of from 8 to 15, proceed to choose a fugleman; the united fuglemen are drilled first, and afterwards impart their knowledge to their respective squads. This the writer of the article evidently regards as a very inadequate arrangement. He likewise criticises the absence of any provision for instruction in duties on guard and in garrison—these would chiefly fall to their lot in the event of actual war. In 1812 and 1855, this was plainly indicated in the manifesto which summoned them to arms, but it may be included in the second course of instruction. On account of deficiency of barrack accommodation, only 90,000 of the 200,000 liable are to be called out this autumn, and they will be trained in one lot. It will cost 1,700,000 roubles—a heavy addition to the already exorbitant budget. But it is anticipated the results will be commensurate with the expenditure. The Russians have ever shown great alacrity in flying to arms in defence of the Empire. In 1812 Alexander I. reviewed a large body of *ratniks* at St. Petersburg six weeks after they had been called to arms, and Lord Cathcart, who was at his side, exclaimed, "Sire, these troops must have sprung up out of the earth." The same stamp of men, now better trained, would prove yet more formidable foes to an invader.

THE IMPENDING WAR IN THE EAST OF EUROPE.—The *Internationale Revue über die Gesammten Armeen und Flotten* for November combats the views lately advocated in the Austrian press that a reconciliation with Russia is possible. These are chiefly based on the hypothesis that the final object of Russia is to effect the conquest of India, and that it is therefore contrary to her interests to provoke a rupture with the Powers of Central Europe. This conception of Russian policy—though we believe it to be the converse of the truth, and that the attack on India is subsidiary to that on the Bosphorus—the *Revue* admits to be correct, but points out that the Empire of the Tzars would not care to commit itself to a world-wide struggle with Great Britain, leaving its western provinces exposed to the blows of Central Europe. In a word, according to this writer, the way to India lies through Constantinople, and the heavy concentration of Russian troops in Poland and in her adjacent provinces, he thinks, proves the correctness of his hypothesis. It matters little, however, which morsel Russia proposes to devour first, India or the Balkan Peninsula. In either case her mode of action, dictated by strategic considerations, will be the same. The solution of the entire Eastern Question must be sought on the plains of Hungary. Therefore it is plain that on Austria must fall the weight of the contest with Muscovite ambition. Russia is waiting for an ally; but at present the French army is not completely equipped with the Lebel rifle; her fleet is not seaworthy; and the present Government is not reckless enough to declare war without provocation. But whenever the first shot shall have echoed among the Vosges, the Russian Government will commence action in the Balkan Peninsula. The Tzar is not accused of warlike propensities; but he is not his own master, and the inevitable conflict between the Teuton and the Slav cannot be indefinitely postponed. The intentions of Russia are to establish a congeries of vassal States in the Balkan Peninsula, and to instal her batteries on the Dardanelles, where she would erect a second Gibraltar to dispute British preponderance in the Mediterranean. Then indeed she might resume her plans against India with better prospects of success; and Austria-Hungary, could the loosely constituted Monarchy resist the gangrenous effects of an unruly, politically corrupt Slavonic State established on her borders, dominated as it would be by Panslavist agitations? In the coming struggle the help of Germany is assured, and this would divert five or six Russian army corps from the Galician frontier, even under the supposition that France had

taken the field. Again, an English expedition to the Baltic would facilitate an attack on the German Provinces of Russia, which would also tend to weaken the assailants of Austria-Hungary. It is likewise to be remarked that operations on a large scale might commence fourteen days earlier among the Vosges than on the slopes of the Carpathian range; and in fourteen days the fate of the struggle of 1870 was practically decided by the battles of Spichenen, Wörth, and those around Metz. By this time also the Italian army would have descended into the valleys of the Durance and Isère. Finally, Austria is counselled to look to her fortifications in the north-east frontiers and especially the railway communication of Transylvania with the Bukowina.

ARTIFICIAL COLD FOR MILITARY PURPOSES.—*The Mittheilungen über Gegenstände des Artillerie-und Genie-Wesens* leads off with a paper advocating the employment of artificial cold for the preservation of meat in fortresses when besieged. The disadvantages and dangers of keeping great herds of live-stock are manifest; besides, the fodder required for their sustenance, being very inflammable, it is a serious source of danger to the garrison. Salted or smoked meat is unwholesome, and a prolonged consumption of such diet by the soldier eventually inspires him with disgust. Dismissing the plan of obtaining a low temperature by means of ice as impracticable in war, the writer proceeds to discuss the mechanical contrivances for effecting this object which are now in use, selecting Linde's Ammonia Compression Machine as the most convenient. A diagram and detailed account of the same is added. Experiments on the system are in progress in Austria, Germany, and France. It offers the further advantage of a supply of ice for the hospitals during a siege.

THE TRUE CONDITIONS OF MARITIME WARFARE.—M. Weyl, in the *Journal de la Marine* of the 8th ult., declares that we are becoming oblivious of the real circumstances in which maritime warfare is waged. Hence the uneasiness which pervades all ranks in the navy. Victory belongs to those who have long kept these principles steadily in view. Colbert and Seignelay created a powerful navy in this way; Pontchartrain destroyed their work by the short-sightedness of his measures. Under Lewis XVI. French sailors had their days of glory; but, in spite of much heroism, the fleets of the Republic were annihilated at Aboukir and Trafalgar for lack of experienced officers and crews. Promotion, according to the writer, is too slow in the French navy: the principle of selection is not sufficiently invoked; incapacity and indifference are the

result. The engineers are neglected; M. Weyl thinks they are better looked after in England. In matters of construction there is much groping and blundering. Engines were formerly made too heavy for the ships, now they are too light. Forced draught is a "véritable invention diabolique" which entirely ignores the conditions of warfare. Officers have declared that they would not shut down the boiler-room in action; for the stokers would not stop there, having no avenue of escape in case of disaster. The commander in his conning-tower cannot exercise, as formerly, a personal supervision of his crew and inspire them with courage by personal example. The responsibility for accepting forced draught rests with naval officers. If they had resisted, the engineers would never have carried the day. Every adjunct of a battle-ship must be simplified in accordance with the requirements of actual warfare, concludes the writer. How, he asks, would it have been with the Italian squadron, when, shattered by tempests, it returned to Spezzia, had it encountered a hostile fleet when it arrived off that port; or with the French ocean-going fleet, constrained to thread the Straits of Gibraltar, having its torpedo-vessels in tow? In preparing its means, a nation must be guided by a strict observance of the "eternal rules of war."

THE MANŒUVRES IN SILESIA.—According to the *Revue du Cercle Militaire* of the 8th ult., they were remarkable for an apparently retrograde tendency in tactics favoured by the German Emperor. Influenced perhaps by the reasoning of the author of "A Summer's Night Dream," he showed predilection for close formations instead of open ones, front attacks instead of turning movements. The *Revue* writes that these manœuvres were quite eclipsed by the performances of the Russians in Volhynia, and, perhaps, even by the French. Next year, however, Germany hopes to recover her lost prestige by exercising troops in Saxony together with the Austrians. This will demonstrate in the face of the world that the memories of Sadowa have been wholly consigned to oblivion.

Naval Summary.



WE regret to learn that, as we completed our summary, news has arrived of the total loss of H.M.S. *Serpent*, only three men being saved out of her crew of 176 officers and men. The ill-fated vessel, which finally left Plymouth on the 8th November, has been wrecked off Cape Villano, the extreme N.W. point of the coast of Spain, having struck on the Buey reef towards midnight on the 10th, and she seems to have gone to pieces before any assistance could be rendered. There was a heavy sea running at the time. It was blowing fresh, and the night was very dark and rainy; the ship was steaming fast, and there appears to have been no suspicion that she was near the land until she actually struck.

One first-class cruiser, the *Edgar*, at Devonport, and two second-class cruisers, the *Terpsichore*, from Messrs. Thompson's yard at Clydebank, and the *Sirius*, from Elswick, have been launched during the past month, while by the time this summary appears a second first-class cruiser, the *Centaur*, ought also to have taken the water at Portsmouth.

The *Alexandra*, first-class battleship, has made a satisfactory full-speed trial of her engines after her refit, and averaged fifteen knots; she is now to be brought forward for commission, and will take the place of the *Northumberland* at Portland, as flagship of the Admiral Superintendent of Naval Reserves. It is difficult to understand why the Admiralty, while they were about it, did not completely rearm this splendid ship with breech-loading guns. As it is, the eight 18-ton muzzle-loaders are retained in her lower battery, four of the 9-inch 22-ton breech-loaders, however, taking the place of the 25-ton muzzle-loaders; and she has also been furnished with fourteen quick-firing guns.

The *Rattlesnake*, the first of the torpedo gun-boats to be built, and also the most successful, is to be paid off, her place as tender to the *Vernon* being taken by the *Seagull*, which has been fitted for discharging the new pattern 18-inch torpedo.

The new third-class cruiser *Bellona* has made a successful preliminary trial of her machinery. Since the failure of her sister-ship, the *Barham*, some alterations have been made in her boilers, with the result that she made 18.5 knots without breaking down. Her further trials are being looked forward to with much interest.

The *Marathon*, second-class cruiser, having had considerable improvements made in her ventilating arrangements, has sailed for the East Indies, and the new torpedo gun-boat *Sandfly* has also left for Malta.

From the Mediterranean we hear that the *Orion*, second-class battle-ship, has been paid off at Malta and placed in the reserve there.

The *Dreadnought* had a successful six hours' full-speed trial, averaging fourteen knots; while we are glad to learn that the *Phaeton*, as her new engine-room staff are getting accustomed to their ship, has been brought up from thirteen knots on her first commissioned trial to sixteen on her four-hours' full-speed run last month.

The *Mosquito* and the *Herald*, the two sternwheel gunboats for the Zambesi, have been successfully put together, at the mouth of that river, and have proceeded to take up their duties for the protection of British interests both on it and the Shiré.

A very successful feat of arms in a small way has been carried out by the East Indian squadron under Sir E. Fremantle, by the capture and destruction of the town of Witu, with only thirteen men wounded on our side. Witu is one of the small sultanates to the north of Zanzibar, which was lately brought under our protectorate by the Anglo-German Agreement. The attack was made to punish the Sultan for the murder of five Germans, for whose death all reparation was refused.

A new gunnery establishment on the lines of those existing at Portsmouth and Devonport, but on a smaller scale, is to be immediately formed in the Medway. The lack of an establishment of this nature has long been looked upon as one of the weak spots in our system of mobilisation. A large coaling wharf, alongside which the heaviest battle-ships can be moored, is at last to be built at Sheerness. The jetty will be carried out from the present seawall, adjoining the offices of the Captain-Superintendent.

The service has just sustained a great loss in the resigning of his commission by Captain Gallwey, one of the cleverest and longest-headed torpedo-officers to be found among that admittedly clever body of men; he takes up the appointment of manager of

the new torpedo-factory, which Mr. Whitehead is about to establish at Weymouth. Probably no man living, not even Mr. Whitehead himself, has so thorough a knowledge, practical and theoretical, of all the details and capabilities of the Fish torpedo as Captain Gallwey.

From the Pacific station we learn that the new coal obtained from the mines at Canmore on the line of the Canadian Pacific Railway has been tried in some of our ships, and Admiral Hotham, the Commander-in-Chief, has reported most favourably upon it. It is said to equal the best Welsh. If that should prove to be the case, a problem which has puzzled a good many officers, viz. how to keep our squadron on that station adequately supplied during war with good coal, has been solved.

Last month (October) some highly interesting experiments were carried out at Silloth, the artillery range of Messrs. Sir W. Armstrong and Co., with a 6-inch quick-firing gun of 40 calibres length on a mounting of new design, specially arranged to be suitable for either the upper or main-deck batteries of our new cruisers. Another feature of this trial was the use of cordite, the new smokeless powder, which has been the subject of extensive trial during the last twelve months. The proof of the gun was carried out by the Woolwich authorities at Silloth, when the remarkable velocity of 2,669 feet a second was obtained with a charge of cordite and a chamber pressure of under 20 tons. Five rounds were first fired with a charge of E.X.E. powder and service projectile for rapidity. The total time of firing these five rounds was 61 seconds. Three rounds were then fired with cordite in 24 seconds and two more in 15 seconds. We have not space to give full details of the experiments, but we may mention that five rounds were fired at a target, which consisted of two casks lashed together with a flag above them at 900 yards range. These rounds were fired in 55 seconds, four shots striking and destroying the casks and the fifth falling five yards short. Five rounds were then fired with P.E.X.E. powder, changing from one to another of three targets, placed at 900, 1,400 and 1,800 yards, and so spread out that the gun had to be traversed through a considerable arc of training. Four shots struck and the fifth went fifty yards over; time taken—3 minutes 43 seconds. Five rounds under similar conditions were then fired with cordite, the total time was 1 minute 37 seconds. There were two hits, and the other three shots were all slightly over. Further experiments with this gun are to be carried out almost immediately at Portsmouth, on board the gun-

boat *Kite*. The same day a new quick-firing gun of 2.65 inches calibre (throwing a 10-lb. projectile), specially designed for use as a boat's gun or naval field-gun, was also submitted for trial. Ten rounds were fired for rapidity on the ship-mounting in 56 seconds ; a second five rounds was fired in 24 seconds, and with practice there is little doubt that from 15 to 20 rounds could be fired a minute. The gun was then placed on the field-mounting, and ten rounds fired at a target at 1,400 yards, the last five being shrapnel shell, everyone of which burst immediately in front of the target. The recoil of the field-carriage was only 6 feet 3 inch with the wheels free ; with the wheels clogged, this was reduced to 2 feet 2 inches.

It is stated that the Admiralty intend to carry out experiments with captive balloons from ships, in view of the unlooked-for success, which attended the experiments carried out this autumn by the French Mediterranean squadron. The balloon used was constructed at the Military Balloon Works, at Calais Meudon, and has a capacity of 11,300 cubic feet ; it is inflated with hydrogen, which is carried in reservoirs under a pressure of 100 atmospheres ; a silk tail rope, 130 feet long, connects the balloon with the ship. Several ascents were made from the *Formidable*, and it was established that at a height of 150 feet, nearly twenty-five miles could be seen, as against eight miles from the deck. Another point was, that from that altitude the waters of the sea are singularly clear, and the details of the bottom were clearly distinguishable even at depths of 80 feet. This peculiarity allowed an observer in the balloon to follow the movements of the submarine boat, *Gymnote*, during its recent trials, without losing sight of it for a single instant, whatever its depth of immersion. The balloons are very stoutly constructed, and in September one was towed at a speed of 10.5 knots, for a distance of twenty-one miles by the torpedo-boat *Audacieux* without suffering the slightest damage. The Germans have also carried out experiments this autumn at Wilhelmshaven with balloons.

From Paris we learn that the old Council of the Admiralty has ceased to exist, its place being taken by the new Superior Council of the Navy, which is composed of the five Maritime Prefects, the vice-admiral commanding the Mediterranean squadron, and the chief of his staff ; their duty will be to study the question bearing on the maritime defence of the country, the organization of the fleet, &c.

An Assistant Committee of Inspector-Generals of the Navy is

created, which will assume the functions of the old Council of the Admiralty, and, in addition, will have the duty of inspecting the dockyards and arsenals; they will also prepare the list of officers for promotion, and of those who are recommended for decoration, and they will be assisted in this latter duty by the flag officers present at home who have held commands at sea during the previous two years, or, in their absence, by their chiefs of the staff.

The Hydrographical Department will be separated from the others, and will form a separate establishment under the command of a flag-officer. The three new Inspector-Generals are Vice-Admirals Devarenne and Olry, and Rear-Admiral De la Jaille; each will have a captain on his staff. The Board of Works of the Navy will remain as at present constituted.

As stated in our last, the new armoured cruiser, *Dupuy-de-Lôme*, was launched at Brest on the 28th ult. She is named after the French naval constructor, who designed the *Gloire*, the first sea-going ironclad built by any nation, and launched in 1859. The new cruiser is 374 feet long, with a beam of 62 feet 6 inches; a displacement of 6,300 tons, with engines of 14,000 horse-power, there are three of these, entirely independent of one another, and they are expected to give a speed of 20 knots. She has an armour-belt 4·3 inch thick, which extends three-fourths the length of the ship (about), and from 3 feet below the water-line up to the top of the main-deck; in fact, her protection is almost identical with that of the old *Warrior*, except that the armour is of steel; her armoured protective deck is of 2·16 inch steel. On the main-deck she will carry 14 quick-firing and machine-guns, while on the upper-deck and superstructure she will carry two 8-inch and six 6-inch guns: the two 8-inch guns will be mounted one on each side amidships in armoured sponsons, two of the 6-inch will be carried at each end of the superstructure, and the other four on the broadside, but so arranged, that out of the 8 guns, 5 can always be brought to bear on the same object; there are also 4 torpedo-tubes. It is not yet decided, but most probably the 6-inch guns will also be protected by steel shields; the idea prevailing in her design has been to protect all vulnerable portions from the effects of shells charged with high explosives.

From Cherbourg we learn that the trials of the new Greek second-class battle-ship *Spetzia* have concluded most satisfactorily, a speed of 17·6 knots being obtained under forced draught, and 16·2 under natural; the engines developed 7,100 horse-power, being

400 horse-power in excess of the contract ; she is sister ship to the *Hydra* which we described in our last number ; both ships have left for the Piræus. The *Psara*, the third ship of the same class has made a satisfactory preliminary trial of her machinery at Havre, and will proceed next month to Cherbourg to undergo her official trials.

Last month another addition was made to the Russian navy by the launch of the partially-armoured battle-ship *Hangö-Udd* at St. Petersburg. The new vessel is 289 feet long between the perpendiculars, or 301 feet including her ram, with a beam of 62 feet and a displacement of 6,628 tons, with engines of 9,300 horse-power to give a speed of 17 knots ; her belt is 16 inches thick, and she will be armed with two 12-inch, six 9-inch, six 6-inch, and 16 quick-firing guns, and there are 5 torpedo discharges.

From Kiel we learn of the launch, at Bremen, on the 8th inst., of the coast-defence battle-ship *Beowulf* ; she is of a similar type to the *Siegfried*, which ship is just completing her trials. We must defer description of her, also of the *Buzzard*, another new cruiser, which is now undergoing her trials in the Baltic.

The Argentine cruiser *25 de Mayo*, just completed by the Elswick firm, has made her steam trials, and has proved herself the fastest warship afloat. She averaged 21·2 for 6 hours with open stoke-holes, her engines indicating 9,000 horse-power, and under forced draught she made 22·4 knots with a pressure of 2 inches, while the engines developed 13,800 horse-power. There was no vibration to speak of, and the ship, although of 3,200 tons displacement, cut through the water like a knife, throwing off from her bows hardly more than a ripple when steaming at natural draught, although moving at so high a rate of speed. We shall, in our next number, give a more detailed description of her, and we must again defer our summary of the armour-plate trials which have been going on in the United States and elsewhere.

Sporting Notes.

THE deer-forests have yielded splendid sport this season, and the results compare favourably with the returns from the moors, which are, on the whole, greatly below the average.

At Langwell, the Duke of Portland's party have killed seventy stags and nearly one thousand brace of grouse, besides other game.

In Forfarshire, Sir Charles Tennant's party killed sixty-two stags, and Mr. George Wilder had thirty-three stags at Glen-cally.

In Ross-shire, some magnificent sport has been obtained. In Alladale forest Mr. Arthur Coats shot forty-five stags in a month; Sir Henry Bruce Meux had fifty-one heads in Fannich forest. At Lochlinchart, Colonel Hargreaves Bolton's party killed forty-three stags, and at Loch Rosque, Mr. Arthur Bignold's party had sixty-four.

In Inverness-shire some good sport is recorded, notably in the forest of Mamore, where Sir Richard Sutton and his guests brought down sixty-two stags; and at Glenfeshie, where Sir Charles Mor-daunt's party obtained sixty-four heads.

At Langwell, Caithness, when the ground was afforested in 1858, there were only two stags and five hinds. The forest at present contains about one thousand heads.

The Duke of Cambridge has been getting good bags on the Six Mile Bottom shootings between Cambridge and Newmarket, which he has rented for this season.

The following is the official account of the bags made on the Czar's Polish estate: 61 deer, 97 wild goat, 71 wild boar, 97 hares, and a large head of grouse and partridge, and 17 foxes.

The German Emperor has made an important addition to his great collection of sporting trophies. To his gun has fallen a stag with enormous antlers, which for several years has challenged sportsmen in the forest of Theerbude.

Sir E. C. Guinness, who has had some good stalking in the forest of Ardverikie in Inverness-shire this season, has rented Riddlesworth Hall, near Sandringham, for the pheasant and partridge-shooting.

In four days, at Colebrooke, co. Fermanagh, Sir Victor Brooke, Major Brooke, Mr. Douglas Brooke, Mr. Leslie Stephen, and Mr. Frederick Wrench, shot 4,251 rabbits—all killed walking up in line on the open, in rushes, henty grass, and ferns, with fourteen beaters.

Sheep-farmers in the Highlands have entered strong protests against the system of grouse driving, which they insist is doing them serious injury, owing to the disturbance of stock.

It is estimated by competent authorities that four thousand stags are annually killed in Scotland, whilst double that number of hinds are usually slain.

Lord Stradbroke has returned from his sporting expedition in the "Rockies." He has enjoyed first-rate sport, but reports that the severity of the winter was apparent from the traces of the carcasses of the elk, which were to be found everywhere.

Sir John Millais has had some glorious sport on the Tay this season. In five days, on the famous Murthly water, he killed to his own rod no less than forty-four salmon.

Sport on the Shannon has been very poor during the past season. On the mighty river in October 1888 Mr. Samuel Laing killed to his own rod in twenty-four days' fishing fifty-seven salmon and grilse weighing 754 lbs. A like feat will never again be accomplished on the Shannon.

The largest salmon that was ever captured by a lady was recently slain on the Shannon by Mrs. Audley Kingdon. It scaled 40½ lbs., and was a very handsome fish.

A List of Military Inventions

PATENTED DURING THE FOREGOING MONTH.

[*This List is specially compiled for the ILLUSTRATED NAVAL AND MILITARY MAGAZINE by Messrs. Rayner and Cassell, Patent Agents, 37, Chancery Lane, London, W.C., from whom all information relating to patents may be had gratuitously.*]

- 16,229. Improvements in back sight-protectors for rifles. JOHN ELSDEN MARTIN, and DAVID REID, 20, Exchange Square, Glasgow. October 18th.
- 16,718. Improvements in or relating to scuttles for ships. ALEXANDER ROBERTSON, 62, St. Vincent Street, Glasgow. October 21st.
- 16,939. Improvements in quick-firing guns. ADOLF ODKOLEK FRECHERR von AUGESD, 28, Southampton Buildings, London. October 23rd.
- 17,112. An automatic apparatus for the control of torpedo batteries. FERDINAND BOSSHARDT, 4, Corporation Street, Manchester. October 27th.
- 17,120. Improvements in targets. THEODOR BERGMANN, 27, Martins Lane, Cannon Street. October 27th.
- 17,292. Improvements in or connected with the ejecting mechanism of breech-loading, drop-down small-arms. WILLIAM BAKER, 12, Cherry Street, Birmingham. October 29th.
- 17,460. Improved cartridge-catcher for bolt guns. PAUL MAUSER, 28, Southampton Buildings, London. October 31st.
- 17,667. Improvements in the method of pointing projectiles. HARRY SAMUEL BICKERTON BRINDLEY, 13, Temple Street, Birmingham. November 4th.
- 17,729. Improvements in magazine and other fire-arms. JOSEPH MARRES, 44, Southampton Buildings, London. November 4th.
- 17,856. Improvements in furnace flues for marine and other boilers. THOMAS MUDD, 6, Lord Street, Liverpool. November 6th.

SPECIFICATIONS PUBLISHED.

- 18,056. BROTHERHOOD. Naval construction. 1889. 11d.
- 19,454. HALL. Breech-loading ordnance. 1889. 8d.
- 18,624. WRIGLEY. Mariners compass. 1889. 1s. 1d.
- 8,977. LAKE (Andersen). Cartridge holders. 1890. 11d.

The above specifications published may be had of Messrs. Rayner and Cassell, 37, Chancery Lane, at the price quoted.

Review.

The Evolution of Photography, with a Chronological Record. By JOHN WERGE. (Piper & Carter, 5 Furnival Street, E.C., and John Werge, 11A, Berners Street, W.)

THIS book contains reprints of various articles contributed by the author to different photographic periodicals, partly descriptive of his adventures, and of the difficulties which beset him on some of his photographic tours; and partly critical, with the author's remarks on pictures, processes, and other subjects interesting to the photographer, both professional and amateur. The book also contains a record of the progress of photography from the days of Daguerre and Niepce, about 1826 and the years immediately succeeding, when the discovery was first made of rendering sun pictures permanent, down to the present time, when instantaneous photography has made such strides towards perfection. Daguerre's process, which was not perfected for many years, was eventually published in 1839 at the expense and request of the French Government, and consisted in making visible a latent image produced by light on a silver plate, rendered sensitive by the fumes of iodine. The plate after exposure was held over a cup of mercury raised to a gentle heat, the mercury being deposited only where the light had fallen, and the picture thus made visible was fixed with hyposulphite of soda, washed and dried.

From this beginning the progress has been continuous. The author divides the time into four principal periods, the first being the era of daguerreotypes described above; the second, that of the paper processes of Fox Talbot and others; the third, the era of Archer's collodion, or gun cotton dissolved in ether and alcohol; and the fourth, that of gelatine, or gelatino-bromide emulsions, known as the dry-plate process, in which the film is sensitized before it is spread on the glass, whereas the collodion was spread on the glass first and afterwards sensitized.

The improvements in lenses are touched upon, but the author does not allude to a description of lens (called the "Eclipse") introduced by Shew three years ago, with a fixed focus for all distances beyond some thirty feet from the camera, which gives most brilliant pictures, and is admirably suited for outdoor work and instantaneous pictures. Those who have found the difficulty of getting a picture into focus in a hurry will appreciate this lens. The author mentions pinhole photographs, where the lens is dispensed with, and the picture is formed by the rays of light passing through a small hole. The pictures are so good and clear, yet soft, that it is probable we shall shortly hear a good deal more

about them. With regard to his critical papers, the most interesting is one on perspective in backgrounds, which lays particular stress on the height of the camera from the ground, and the absurd faults so often met with in artificial backgrounds. Backgrounds have been usually treated as independent pictures, instead of due regard being paid to the relation of the lens to the sitter and the background, and to the proper position of the horizon line and point of sight. There was a picture in the recent exhibition of the Photographic Society taken at home by a lady, Mrs. G. Young, which gave a much better result than any of the ordinary professional backgrounds. It was very simple, only a sofa, with a folding screen behind it, on which a few flowers were painted; a lady was taken seated on a sofa, and the screen formed the background, but the attitude was so natural and the surroundings were so thoroughly in keeping, that the effect was charming.

Some of M. Werge's travels and adventures in taking photographs are entertaining, and the best are his account of Niagara Falls, and of his passing the Lachine Rapids in a voyage down the St. Lawrence. The steamer was taken in charge by an Indian pilot of the Iroquois tribe, and when the steamer approached the rapids the engine was stopped and the vessel allowed to drift down with the current, which runs at the rate of twenty miles an hour. At one point there is a perpendicular drop of ten or twelve feet, and at this place the tiller is put hard over to avoid running on a large rock immediately below the fall. Everything depends on the tiller ropes, and if they were to give way nothing could prevent the steamer being dashed to pieces. M. Werge describes the curious jumps and jerks of the vessel in passing the rapids, and introduces a story told by one of his fellow-passengers, which is good enough to be repeated.

The author professes to give a record of progress in the art, and of some of his own reminiscences, and not to describe processes in detail; but a little more information about the autotype process and photo-gravure would have been acceptable. We are given, however, a notice of the attempts which have been made with isochromatic plates to more truthfully render the appearance of colours in copying oil and water-colour paintings, giving yellow its bright luminous appearance in the photograph instead of reproducing it as nearly black, which it usually appears. It has long been the hope of photographers to produce a picture by development showing natural colours, and the first step is to translate the relative brightness of the colours in the spectrum into a visible image, rather than their intensity as evidenced in the order of refrangibility. This step has been taken. Perhaps, some day, the successive application of different developing agents, each bringing out one colour in turn, will produce the required result; and such a book as the present may help to guide the inventor by showing the course of progress in the chemical knowledge of substances affected by light, and supply a hint which may possibly lead to a successful issue.

Foreign Service Magazines.

SUMMARY OF ARTICLES.

REVUE DU CERCLE MILITAIRE. (Paris: 87, Rue de Bellechasse).
Nos. 42 to 46. 1890.

The Military Uses of Shorthand—The German Imperial Manœuvres in Silesia—Progress in European Navies—Studies on the English Army—Creusot Plates in the United States—Heligoland and the Partition of East Africa—Study on the German Grand Manœuvres—The New Equipment of Infantry.

REVUE DE CAVALERIE. (Paris: Librairie-Militaire, Berger, Levrault et Cie., 5, Rue des Beaux Arts.) October 1890.

Exelmans, by General Thoumas, with a Portrait—My Squadron—The History of the French Cavalry Regiments—The Officer's Horse—The Cavalry Action at Zehdenick—Sword Exercises in the Cavalry.

REVUE MILITAIRE DE L'ÉTRANGER. (Paris: L. Baudoin et Cie., 80, Rue et Passage Dauphine.) 15th and 30th October 1890.

The Re-engagements of Non-Commissioned Officers in the Russian Army—The Portuguese Colonies (*concluded*)—The Topographic Corps in Russia—The Bulgarian Army in 1890—The Military Forces of Sweden (*continued*).

JOURNAL DES SCIENCES MILITAIRES. (Paris: L. Baudoin et Cie., 80, Rue et Passage Dauphine.) October 1890.

Commissariat Tactics (*concluded*)—Letters on Smokeless Powder in Warfare—The Campaign of 1814 (*continued*)—The Tactics of the Three Arms.

REVUE D'INFANTERIE. (Paris: Henri Charles Lavauzelle, 11, Place St. André des Arts.) September 1890.

The French Army: As It is, and As It should be (*continued*)—Hygiene, Health, and Economy (*continued*)—Study on the Reorganization of the Administrative Personnel of the Army—The Belgian Repeating Rifle.

JOURNAL DE LA MARINE. LE YACHT. (Paris: 55, Rue de Château-dun.) Nos. 658-661.

Creusot and Cammell Plates in the United States—The 3rd Class Cruiser *Surcouf*—The Launch of the *Dupuy-de-Lôme*—The Conditions of Naval Warfare.

LE PROGRÈS MILITAIRE. (Paris: 34, Rue du Mont Thabor.) Nos. 1,039 to 1,046.

The Promotion of General Officers (1,041)—Quick-Firing Guns

(1,041)—Voluntary Enlistment (1,041)—Torpedo Shell (1,042)—Espionage (1,043)—Railway Manœuvres (1,043)—The French Colonial Troops (1,045).

LA FRANCE MILITAIRE. (Paris: 11, Place Saint André des Arts.) Nos. 1,948 to 1,974.

Voluntary Enlistment (1,948)—The History of the French Army (1,948, &c.)—The Colonial Army (1,948, &c.)—French Naval Construction (1,949)—Some Ideas on Smokeless Powders and Tactics (1,950)—The Recruiting of the Gendarmerie (1,952)—The Military Tax (1,952)—Infantry Officers' Uniform (1,955)—Paris and Lyons as Seaports (1,956)—Military Prisons (1,957)—Defence of Our Eastern Colonies (1,958)—Belgian Notes (1,962)—Frenchmen in the Foreign Legion (1,964)—The Budget of the Colonial Army (1,966)—Military Cycles (1,967)—The French Naval Budget (1,973 and 1,974).

INTERNATIONALE REVUE UEBER DIE GESAMMTEN ARMEEN UND FLOTTEN. (Rathenow: Verlag Von Max Babenzien.) October and November 1890.

Thoughts on the Future Organization of the German Field Artillery (October)—The Tactics of the Three Arms (October)—Russia Naval Base of Operations in the Baltic (October)—The Military Power of Belgium (November)—The Swiss Manœuvres of 1890 (November).

JAHRBUECHER FUER DIE DEUTSCHE ARMEE UND MARINE. (Berlin: Richard Wilhelmi.) November 1890.

The Influence of the Small Calibre Rifle on Tactics—The Training of Field Artillery for Action against Smokeless Rifle Fire—Present Day Use of Field Fortifications—Our Naval Manœuvres—The Wars of Frederick the Great.

MITTHEILUNGEN UEBER GEGENSTAENDE DES ARTILLERIE- UND GENIE-WESENS. (Vienna: Druck und Commissionsverlag von R. v. Waldheim.) No. 11. 1890.

On the Application of Artificially Produced Cold for Military Purposes—Trials with Revolvers in North America—The Mannesmann System.

RIVISTA MILITARE ITALIANA. (Rome: Voghera Carlo.) October 1890.

The Supply of Ammunition to Artillery in the Field—The Changes in the Command of Troops through the Introduction of Smokeless Powder—The German Grand Manœuvres.

RIVISTA DI ARTIGLIERIA E GENIO. (Rome: Voghera Carlo.) October 1890.

The Exact Solution of the Ballistic Problem—The Fortifications of North-Eastern France—Military Telephones—Gruson Firing Experiments.

REVISTA TÉCNICA DE INFANTERIA Y CABALLERÍA. (Madrid.) October 1890.

The Application of Photography to War—Notes on the Tactical Regulations for Spanish Cavalry—Cavalry in Modern Warfare.

RIVISTA MARITTIMA. (Rome.) November 1890.

The Launch of the *Sardegna*—Ships and Guns.

ARCHIV FUER DIE ARTILLERIE UND INGENIEUR-OFFICIERE DES DEUTSCHEN REICHSHEERES. (Berlin: E. Mittler und Sohn.) September and October 1890.

Some Notes on the Construction of Fortifications by Germany's Neighbours (1887 to 1889) (*concluded*)—The Present Condition and Importance of the French Jura and Alpine Fortifications.

JOURNAL OF THE U.S. CAVALRY ASSOCIATION. (Kansas: Fort Leavenworth.) September 1890.

Troop and Company Pack Trains—A New Lecture on the Horse's Foot—New Drill Regulations for Cavalry, United States Army.

JOURNAL OF THE MILITARY SERVICE INSTITUTION. (Governor's Island, U.S.A.) November 1890.

Our Northern Frontier—Development of Naval Armour—The Light Battery in Peace—Practical Education of the Soldier.

BOLETIN DEL CENTRO NAVAL. (Buenos Ayres, Cuyo 1,124.) July and August 1890.

Notes from England—The English Naval Manœuvres of 1889—The Determination of the Direction of the Wind—The Argentine Navy and the Defence of the Rio de la Plata—Our Naval Artillery—Modern Artillery—Manœuvres of the English Navy.

MILITARY MAGAZINE (Voyenni Sbornik). (St. Petersburg.) November 1890.

Early Military Service of Peter the Great—Railways from a Military Point of View—Means of Conveying Intelligence in the Field—The Main Guard as a Place of Imprisonment—Employment of Pigeons in War—Sketch of Khanate of Bokhara.

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